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DEPARTMENT OF THE AIR FORCE
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19 Aug 2016

MEMORANDUM FOR: South Carolina Department of Health and
Environmental Control (SCDHEC)
Attn: Ms. Meredith Amick
Department of Defense (DoD) Corrective Action Section
Division of Waste Management
Bureau of Land and Waste Management
2600 Bull Street
Columbia, SC 28201

FROM: AFCEC/CIBE – Myrtle Beach
706 Hangar Road
Rome, New York 13441

SUBJECT: Final Perfluorinated Compounds (PFCs) Release Determination at Multiple Base Realignment and Closure (BRAC) Bases, Site Investigation Report, Site FT016P, Former Myrtle Beach Air Force Base (AFB), South Carolina

Dear Ms. Amick:

Enclosed for your records is the Final PFCs Release Determination at Multiple BRAC Bases, Site Investigation Report, Site FT016P, Former Myrtle Beach AFB, South Carolina. Approval of the draft version of the document dated 5 July 2016 was noted in your letter dated 5 August 2016. An additional approval letter is not required.

As noted with submittal of the draft version of this document, the US Environmental Protection Agency (USEPA) issued lifetime drinking water Health Advisory (HA) values for Perfluorooctanesulfonic Acid (PFOS) and Perfluorooctanoic Acid (PFOA) on 19 May 2016 (USEPA, 2016a[1] and 2016b[2]). However, for this document, PFOS and PFOA results are compared to the project action limits (PALs) identified in the Installation Specific Work Plan Addendum (ISWPA). The new HA values will be used to evaluate groundwater results from future PFC site investigation activities.

Text has been added to Section 6.0 of the report to address your recommendation to provide notification to the landowner of the presence of PFCs in the FT16 (SMMU 12) area. A response to comment file is also provided.

[1] United States Environmental Protection Agency, 2016 (USEPA, 2016a), Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS), EPA 822-R-16-004, Office of Water, May.

[2] United States Environmental Protection Agency, 2016 (USEPA, 2016b), Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA), EPA Document Number 822-R-16-005, Office of Water, May.

SCANNED 8-23-16 54

Please contact me at (315) 356-0810 x 204 if you have any questions or comments.

CATHERINE JERRARD
BRAC Environmental Coordinator-Myrtle Beach AFB

Cc: Distribution List
Attachment: Final Perfluorinated Compounds Site Investigation Report, Site FT016P, former Myrtle Beach AFB

Distribution List for
Final Perfluorinated Compounds
Site Investigation Report, Site FT016P
Former Myrtle Beach AFB

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Date:	DOCUMENT REVIEW	Document Name: Draft Perfluorinated Compounds Site Investigation (SI), Former Myrtle Beach AFB
August 2016	TO 0177 – Perfluorinated Compounds (PFCs) Release Determination at Multiple BRAC Bases; FA8903-08-D-8766, AFCEC Project Number: RDRD20147242	**Document Date:** July 2016

SCDHEC TECHNICAL REVIEW COMMENT MATRIX					
Item	***Page***	***Section***	***Line(s)***	***Comments***	***Response to Comment (Amec FW)***
Reviewer: *Meredith Amick, SCDHEC*					
1.	25	6.0	960	SCDHEC approved the Draft SI Report by letter on August 5, 2016. The letter recommended interim Land Use Controls (LUCs) to include property owner notification of the presence of PFCs in the FT16 (SWMU 12) area.	Concur. Text regarding landowner notification has been added to Section 6.0. Based on PFOS and PFOA concentrations in groundwater exceeding the PALs at FT0016P, the Air Force will provide notification to the landowner of the results and include guidance on handling impacted groundwater during future property development activities. There is an additional investigation planned at former Myrtle Beach AFB to evaluate other locations at the former installation where AFFF may have been released. Any further investigation of FT016P and the other potential release locations will be addressed in future work plans. Prior to performing future investigations, the Air Force will provide advance notice of sampling activities to the property owner. At the completion of future investigation activities, the Air Force will provide the property owner with the results of the investigation and guidance for handling any impacted media during property development activities.

FINAL

PERFLUORINATED COMPOUNDS (PFCs) RELEASE DETERMINATION AT MULTIPLE BRAC BASES
SITE INVESTIGATION REPORT
FORMER MYRTLE BEACH AIR FORCE BASE
AFCEC Project Number: RDRD20147242

Prepared for:
Air Force Civil Engineer Center
Joint Base San Antonio – Lackland, Texas

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Land & Waste Management

Prepared by:

Amec Foster Wheeler Environment & Infrastructure, Inc.

Contract FA8903-08-D-8766
Task Order 0177

August 2016

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NOTICE

The Site Investigation (SI) documented in this report was conducted prior to issuance of lifetime drinking water Health Advisory (HA) values for Perfluorooctanesulfonic Acid (PFOS) and Perfluorooctanoic Acid (PFOA) by the US Environmental Protection Agency (USEPA) on 19 May 2016 (USEPA, 2016a and 2016b). The PFOS and PFOA results are compared to the project action limits (PALs) identified in the Quality Assurance Project Plan (QAPP) and Installation Specific Work Plan Addendum (ISWPA). The QAPP/ISWPA groundwater and surface water PALs for PFOS and PFOA are based on the 2009 USEPA Provisional Health Advisory (PHA) values.

The 2009 USEPA drinking water PHA values were 0.2 micrograms per liter (µg/L) for PFOS and 0.4 µg/L for PFOA. The USEPA has set the HAs in drinking water for both PFOA and PFOS at 0.070 ug/L, and has recommended that when PFOA and PFOS co-occur in a drinking water source, the sum of the concentrations of PFOA and PFOS also be compared to the HA value of 0.070 ug/L (USEPA, 2016a[1] and 2016b[2]). Future investigations will adopt the new HA values as comparison thresholds.

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[1] United States Environmental Protection Agency, 2016 (USEPA, 2016a), Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS), EPA 822-R-16-004, Office of Water, May.

[2] United States Environmental Protection Agency, 2016 (USEPA, 2016b), Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA), EPA Document Number 822-R-16-005, Office of Water, May.

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ACRONYMS AND ABBREVIATION

Accutest	Accutest Laboratories
AFB	Air Force Base
AFCEC	Air Force Civil Engineer Center
AFFF	aqueous film forming foam
AMEC	AMEC Environment and Infrastructure
Amec Foster Wheeler	Amec Foster Wheeler Environment & Infrastructure, Inc.
amsl	above mean sea level
BEC	BRAC Environmental Coordinator
bgs	below ground surface
BRAC	Base Realignment and Closure
CCL	Contaminant Candidate List
CCV	Continuing Calibration Verification
CSM	Conceptual Site Model
DoD	Department of Defense
DoDI	Department of Defense Instruction
DoT	Department of Transportation
DQO	Data Quality Objective
FB	field blank
FD	field duplicate
FOLTA	Forward Operating Location Training Area
FS	Feasibility Study
ft	feet/foot
FTA	Fire Training Area
HDPE	High Density Polyethylene
HSA	Hollow Stem Auger
ICV	Initial Calibration Verification
IDW	Investigation-Derived Waste
in	inch/inches
IRP	Installation Restoration Program
ISWPA	Installation Specific Work Plan Addendum
LC-MS/MS	Liquid Chromatography and Tandem Mass Spectrometry
LOD	Limit of Detection
MBIA	Myrtle Beach International Airport
µg/l	micrograms per liter
mg/kg	milligrams per kilogram

MS	Matrix Spike
MSD	Matrix Spike Duplicate
OWS	Oil-Water Separator
PAL	Project Action Limit
PFBS	Perfluorobutanesulfonic Acid
PFC	Perfluorinated Compound
PFHpA	Perfluoroheptanoic Acid
PFHxS	Perfluorohexanesulfonic Acid
PFNA	Perfluorononanoic Acid
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctanesulfonic Acid
PHA	Provisional Health Advisory
PPE	Personal Protective Equipment
QAPP	Quality Assurance Project Plan
QC	Quality Control
QPP	Quality Program Plan
SI	Site Investigation
SIR	Site Investigation Report
SCDHEC	South Carolina Department of Health & Environmental Control
SOP	Standard Operating Procedure
SWMU	Solid Waste Management Unit
TFW	Tactical Fighter Wing
UCM	Unregulated Contaminant Monitoring
UFP	Uniform Federal Policy
USAF	United States Air Force
USEPA	United States Environmental Protection Agency

EXECUTIVE SUMMARY

This Site Investigation Report (SIR) presents information regarding the perfluorinated compound (PFC) release determination activities at former Myrtle Beach Air Force Base (AFB), Fire Training Area (FTA) site FT016P[1]. This Site Investigation (SI) is part of a United States Air Force (USAF)-wide initiative to assess the presence of PFCs at Base Realignment and Closure (BRAC) installations in accordance with Department of Defense (DoD) Instruction (DoDI) 4715.18, Emerging Contaminants, and driven by the 2012 Interim USAF Guidance on Interim Sampling and Response Actions for PFCs at Active and BRAC Installations (USAF, 2012). Based on these guidelines, the USAF is undertaking a systematic approach to evaluating FTAs that were operable between 1970 and 2000.

PFCs are a class of synthetic fluorinated chemicals used in many industrial and consumer products, including non-stick cookware, food packaging, waterproof clothing, fabric stain protectors, lubricants, paints, and firefighting foams such as aqueous film forming foam (AFFF). In 1970, the USAF began using AFFF to extinguish petroleum fires. Releases of AFFF to the environment routinely occurred during fire training exercises. From the early 1970s until 2002, the DoD purchased and used AFFF containing PFCs for firefighting and fire training exercises (USAF, 2012).

In 2009, the United States Environmental Protection Agency (USEPA) Office of Water issued Provisional Health Advisories (PHAs) for two PFCs, perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA), to protect humans from potential risk of exposure to PFOS and PFOA through drinking water (USEPA, 2009). PHAs represent reasonable, health-based hazard concentrations above which action should be taken to reduce exposure to these contaminants in drinking water. Per the USEPA, PHAs are not to be construed as legally enforceable federal standards and are subject to change as new information becomes available (USEPA, 2012). The PHAs for PFOS and PFOA are 0.2 micrograms per liter (µg/L) and 0.4 µg/L, respectively. To date, the state of South Carolina does not currently regulate PFCs.

This SI was conducted as a voluntary action by the USAF to assess the presence or absence of PFCs at the former Myrtle Beach AFB FTA in soil and groundwater, and sediment at the sluice gate area near the south boundary of the former installation. This work was performed in accordance with the Installation Specific Work Plan Addendum (ISWPA) (AMEC Environment & Infrastructure, Inc. [AMEC], 2015a) and General Quality Program Plan (QPP) (AMEC, 2014). In the absence of federal or state regulatory standards for PFCs, the General QPP and the ISWPA utilize Project Action Limits (PALs) for PFOS and PFOA based on the USEPA PHAs (0.2 µg/L PFOS and 0.4 µg/L PFOA in groundwater and surface water) and USAF-calculated screening values derived from Office of Superfund Remediation and Technology Innovation residential

[1] The FTA has been historically addressed under the Installation Restoration Program (IRP) under site designation FT016. To manage and administer PFC-related site investigation, characterization, and mitigation activities, the USAF has defined each site with a new identification that adds a "P" to the IRP site identification. The corresponding site identification (i.e. FT016P) is used throughout this document.

and direct contact criteria (5 milligrams per kilogram [mg/kg] PFOS and 12 mg/kg PFOA in soil and sediments).

The FTA of concern is FT016P. Three other FTAs (FT006, FT007 and FT011) were located on the former installation; however, those FTAs were in use prior to the use of AFFF in 1970 for fire training activities. FT016P is located in the southeastern portion of the former Myrtle Beach AFB. FT016P now serves as a rental car servicing/maintenance facility for the Myrtle Beach International Airport (MBIA). Prior to use as an FTA, FT016P was used as an aircraft parking area from 1942 through 1947 and as an auto parking and maintenance area in the late 1950s.

FT016P was utilized as a practice burning/extinguishing area to conduct fire training exercises between 1970 and 1992. FT016P consisted of a 100-foot (ft) diameter sandy, earthen and diked burn pit located approximately one-half mile east of the main runway and north of South Road. FT016P included an aircraft mock-up and was underlain by drains that led to an oil-water separator (OWS) northeast of the burn area. The OWS consisted of a 250 cubic foot unlined concrete structure buried in the ground. The OWS was designed to capture residual petroleum products collected from the burn pit at the completion of fire training exercises. The water from the OWS was discharged to a polishing pond, which measured 30 ft wide by 30 ft long and 4 ft deep. The polishing pond was an open, unlined depression located to the east of the burn pit. Effluent from the polishing pond discharged to the drainage ditch which was located to the east of the pond.

Geology at former Myrtle Beach AFB consists of 60 ft of interbedded sand, silt, clay, and marl that make up the Socastee, Canepatch, Waccamaw, and Bear Bluff formations. The Peedee Formation underlies the Bear Bluff Formation and is comprised of approximately 200 ft of calcareous clayey silt and fine grained sand. Underlying the Peedee Formation is the Black Creek Formation, composed of approximately 750 ft of laminated clays and very fine glauconotic, phosphatic, and micaceous sand along with thin layers of hard, calcareous sandstone. The Middendorf Formation underlies the Black Creek Aquifer and is composed of approximately 500 ft of medium to coarse sand and thin layers of silty clay (USAF, 1993).

Surface water flow at the former Myrtle Beach AFB is derived primarily from storm water runoff and water treated via a series of OWSs located at industrial facilities across the installation. The drainage system divides the former installation into a North Drainage Basin and a South Drainage Basin that discharge directly into off-base water bodies via manmade drainage ditches. Surface water in the North Drainage Basin discharges into the Intracoastal Waterway, while surface water in the South Drainage Basin discharges into the Atlantic Ocean. Wetlands have also been identified throughout the former installation property and are characterized by low-lying areas with occasional standing water (USAF, 1993). Surface water at the FT016P area generally drains south by means of sheet flow that is collected by a system of drainage ditches and stormwater conveyances to a culvert beneath the former taxiway (now Radar Road) discharging into a stormwater detention pond that lies in the area south of the site.

Regional groundwater flow is generally to the west towards the Intracoastal Waterway. Groundwater flow in the vicinity of FT016P is generally to the south. Groundwater within the Shallow Water Table and Artesian Aquifer System at the installation typically occurs within a few feet below ground surface (bgs) and extends to a depth ranging from 30 to 40 ft below mean sea level. Groundwater levels within this aquifer system vary geographically and seasonally, and groundwater flow is generally to the west at the former Myrtle Beach AFB. High pumping rates can cause the shallow system to receive recharge from surface water bodies, however, recharge is primarily through precipitation.

This investigation had the following specific objectives:

- Assess whether there are PFCs) in surface soil, subsurface soil, and groundwater at FT016P from past use of AFFF at the site for firefighting training;
- Assess whether PFCs are in surface soil, subsurface soil, and groundwater in secondary source areas and drainage areas downstream from the site, associated with site runoff or direct discharge;
- Assess whether PFCs are in groundwater that has migrated downgradient of FT016P;
- Assess whether PFCs are present in sediment upstream of the sluice gate; and,
- Assess whether PFCs are present in the former public Water Supply Well, Well 1.

This SIR documents sampling conducted during the period between 7 July 2015 and 24 July 2015 which consisted of the following.

- Installation of seven soil borings and collection of 18 soil samples at the FT016P primary source area and secondary source areas including the former OWS, polishing pond, and drainage ditch;
- Installation, development, and sampling of six new monitoring wells at the FT016P primary source area, and downgradient and secondary source areas;
- Development and sampling of one existing monitoring well downgradient of FT016P; and
- Collection of one sediment sample from the sluice gate area.

One water sample from the former public Water Supply Well, Well 1, was collected on 23 November 2015 and is also documented in this SIR.

All samples were analyzed for the following six PFCs using the USEPA Method 537 Modified:

- PFOS;
- PFOA;
- Perfluorohexanesulfonic acid (PFHxS);
- Perfluoroheptanoic acid (PFHpA);
- Perfluorononanoic acid (PFNA); and,
- Perfluorobutanesulfonic acid (PFBS).

Analytical results showed that PFCs were detected in soil, groundwater, and sediment. Comparison to the PALs showed no exceedances in the sediment sample. One soil sample exceeded the PFOS PAL, seven

groundwater samples plus one duplicate exceeded the PFOS PAL, and five groundwater samples plus one duplicate exceeded the PFOA PAL. PFHxS, PFHpA, PFNA, and PFBS do not have PALs; therefore only the results of PFOS and PFOA are discussed in detail and shown on figures.

Review of soil results shows one detection of PFOS at a concentration above the PAL at the FT016P source area. PFOS was detected at concentrations below the PAL in all seven borings and in the full depth sampled. PFOA was detected at concentrations below the PAL in the two borings sampled within the FT016P source area. One of the borings yielded only estimated concentrations of PFOA.

Review of the groundwater results shows detections of PFOS at concentrations above the PAL in the six new and one existing monitoring well sampled. PFOA was detected at concentrations above the PAL in five of the new monitoring wells sampled, including the two wells within the FT016P source area, the two wells at the former OWS and polishing pond, and one well downgradient of the source area. PFOA was detected at concentrations below the PAL at the new monitoring well installed in the drainage ditch and the existing well downgradient of the source area.

1.0 INTRODUCTION

This Site Investigation Report (SIR) presents information regarding perfluorinated compound (PFC) release determination activities at former Myrtle Beach Air Force Base (AFB), Fire Training Area (FTA) site FT016P[4]. This SIR has been prepared under Contract No. FA8903-08-D-8766, Task Order 0177 between Amec Foster Wheeler Environment & Infrastructure, Inc.[3] (Amec Foster Wheeler) and the Air Force Civil Engineer Center (AFCEC). This Site Investigation (SI) is part of a United States Air Force (USAF)-wide initiative to assess the presence of PFCs at Base Realignment and Closure (BRAC) installations in accordance with Department of Defense (DoD) Instruction (DoDI) 4715.18, Emerging Contaminants (DoD, 2009). The 2012 Interim USAF Guidance on Interim Sampling and Response Actions for PFCs at Active and BRAC Installations (USAF, 2012) guided the BRAC SI.

This SI was performed in accordance with the Installation Specific Work Plan Addendum (ISWPA) (AMEC, 2015a) and General Quality Program Plan (QPP) (AMEC, 2014). These documents were prepared using the Uniform Federal Policy (UFP) Quality Assurance Project Plan (QAPP) and are in accordance with United States Environmental Protection Agency (USEPA) guidance (USEPA, 2012) and AFCEC protocols.

1.1 PERFLUORINATED COMPOUNDS OVERVIEW

PFCs are a class of synthetic fluorinated chemicals used in many industrial and consumer products, including non-stick cookware, food packaging, waterproof clothing, fabric stain protectors, lubricants, paints, and firefighting foams such as aqueous film forming foam (AFFF). In 1970, the USAF began using AFFF to extinguish petroleum fires. From the early 1970s until 2002, DoD purchased and used AFFF containing perfluorooctane sulfonic acid (PFOS) and/or perfluorooctanoic acid (PFOA) for firefighting and fire training exercises (USAF, 2012). Releases of AFFF to the environment routinely occurred during fire training exercises. Additionally, a wide range of materials used by the general public are potential sources for the release of PFCs to the environment.

1.2 REGULATORY FRAMEWORK

The Safe Drinking Water Act includes a process that USEPA must follow to identify and list unregulated contaminants that may require a national drinking water regulation in the future. Two primary methods used by the USEPA to evaluate contaminants in drinking water are the Contaminant Candidate List (CCL)

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[4] The FTAs historically have been addressed under the Installation Restoration Program (IRP) under other site designations including FT016, FT006, FT007, and FT011. To manage and administer PFC-related site investigation, characterization, and mitigation activities, the USAF has defined each site with a new identification that adds a "P" to the IRP site identification. The corresponding site identification (i.e. FT016P) is used throughout this document.

[3] AMEC Environment & Infrastructure, Inc. (AMEC) changed its name on 1 January 2015 to Amec Foster Wheeler Environment & Infrastructure, Inc., to reflect AMEC's acquisition of Foster Wheeler. Contract FA8903-08-D8766 was modified on 26 March 2015 to reflect the name change. All resource documents created under AMEC Environment & Infrastructure, Inc. remain in place and are executed under Amec Foster Wheeler Environment & Infrastructure Inc.

and Unregulated Contaminant Monitoring (UCM) Programs. PFOS and PFOA are included on the USEPA Contaminant Candidate List Number 3 (CCL3) and are part of the UCM Rule Number 3, which require monitoring by public water systems to evaluate the presence of these compounds in the water supply.

In 2009, the USEPA Office of Water issued Provisional Health Advisories (PHAs) for two PFCs, PFOS and PFOA, to protect humans from potential risk of exposure to PFOS and PFOA through drinking water (USEPA, 2009). According to the 2012 Edition of the Drinking Water Standards and Health Advisories (USEPA, 2012b), the PHAs are informal technical guidance to assist Federal, State, and local officials in response to drinking water contamination. PHAs represent reasonable, health-based hazard concentrations above which action should be taken to reduce exposure to these contaminants in drinking water. Per the USEPA, PHAs are not to be construed as legally enforceable federal standards and are subject to change as new information becomes available (USEPA, 2012b). The PHAs for PFOS and PFOA are 0.2 micrograms per liter (µg/L) and 0.4 µg/L respectively. The state of South Carolina does not currently regulate PFCs.

Under the DoDI 4715.8, the USAF considers PFOS and PFOA to be emerging contaminants because (1) they may have been released to the environment, (2) they present a potential unacceptable human health or environmental risk, and (3) regulatory standards are evolving. For the purpose of release determination, the USAF adopted the USEPA PHAs as thresholds to assess whether a release has occurred.

1.3 PROJECT OBJECTIVES

The USAF Interim PFC Guidance outlines a systematic evaluation process that begins with assessing FTAs that were operable between 1970 and 2000. This SI is a voluntary action by the USAF to assess the presence or absence of PFCs in soil, groundwater, and sediment at the former Myrtle Beach AFB FTA (FT016P). The General QPP and the ISWPA utilize Project Action Limits (PALs) for PFOS and PFOA. The South Carolina Department of Health & Environmental Control (SCDHEC) conditionally approved the ISWPA and issued the monitoring well approval to proceed with field work on 10 June 2015. **Table 1-1** identifies the PALs for PFCs assessed in the SI. The USEPA PHAs for PFOS and PFOA were adopted for groundwater and surface water. The PALs used for soil and sediment were taken from the USAF Interim PFC Guidance and are screening values calculated by the USAF based on the USEPA Office of Superfund Remediation and Technology Innovation sub-chronic toxicity criteria, using default residential and direct contact parameters for the USEPA's Regional Screening Level calculator. The remaining PFCs do not have established PALs.

The specific objectives of this SI, as stated in the ISWPA, were to:

- Assess whether there are PFCs in surface soil, subsurface soil, and groundwater at FT016P from past use of AFFF at the FTA for firefighting training; and,
- Assess whether PFCs are in surface soil, subsurface soil, and groundwater in secondary source areas and drainage areas downstream from the site, associated with site runoff or direct discharge.

In addition to the SI sampling activities outlined in the ISWPA, additional sampling was performed to assess whether PFCs from FT016P have migrated downgradient. The objectives of the additional sampling were to:

- Assess whether PFCs are in groundwater that has migrated downgradient of FT016P;
- Assess whether PFCs are present in sediment upstream of the sluice gate; and,
- Assess whether PFCs are present in the former public Water Supply Well, Well 1.

All samples were analyzed for the following six PFCs using the USEPA Method 537 Modified:

- PFOS;
- PFOA;
- Perfluorohexanesulfonic acid (PFHxS);
- Perfluoroheptanoic acid (PFHpA);
- Perfluorononanoic acid (PFNA); and,
- Perfluorobutanesulfonic acid (PFBS).

This report discusses and provides a comparison of the analytical results to PALs for PFOS and PFOA. PFHxS, PFHpA, PFNA, and PFBS do not have PALs. Therefore, only the results of PFOS and PFOA are discussed in detail and presented in figures. All data are presented in tables.

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2.0 SITE DESCRIPTION AND OPERATIONAL HISTORY

The former Myrtle Beach AFB is located at approximately N 33°40'45'' latitude, W 78°55'44.6'' longitude in Myrtle Beach, South Carolina (**Figure 2-1**). The installation was in operation from 1940 to 1993, except during the years 1947 to 1954, and occupied approximately 3,800 acres.

The former Myrtle Beach AFB was established in 1940 as a World War II training base and inactivated in 1947. The installation was reactivated in 1954 and was later designated as the 354th Tactical Fighter Wing (TFW). The mission of the 354th TFW was to maintain the capability to deploy worldwide and provide close air support and anti-armor operations in all types of combat environments; to be prepared to execute tactical fighter missions; and to destroy enemy forces with a wide range of munitions. The installation officially closed on 31 March 1993 under BRAC. Ownership of installation property, approximately 3,800 acres, was transferred from the USAF to the City of Myrtle Beach, Horry County, and private commercial concerns. The airfield was transferred to the Myrtle Beach International Airport (MBIA), an Horry County operated facility.

The FTA of concern is FT016P. Three other FTAs (FT006, FT007 and FT011) were located at the installation; however, those FTAs were in use prior to the use of AFFF in 1970 for fire training activities. FT016P is located in the southeastern portion of the former Myrtle Beach AFB as shown on **Figure 2-2**. FT016P now serves as a rental car servicing/maintenance facility for the MBIA. Prior to use as an FTA, FT016P was used as an aircraft parking area from 1942 through 1947 and as an auto parking and maintenance area in the late 1950s.

FT016P was used as a practice burning/extinguishing area to conduct fire training exercises between 1970 and 1992. FT016P consisted of a 100-foot (ft) diameter sandy, earthen and diked burn pit located approximately one-half mile east of the main runway and north of South Road. FT016P included an aircraft mock-up and was underlain by drains that led to an oil-water separator (OWS) northeast of the burn area. The OWS was a 250 cubic ft unlined concrete structure buried in the ground. The OWS was designed to capture residual petroleum products collected from the burn pit at the completion of fire training exercises. The water from the OWS was discharged to a polishing pond which measured 30-ft wide by 30-ft long and 4-ft deep. The polishing pond was an open, unlined depression located to the east of the burn pit. Effluent from the polishing pond discharged to the drainage ditch east of the pond. The historical FTA layout is shown in **Figure 2-3**. The former FTA and site features (mock-up aircraft, drains, drain lines, OWS and polishing pond) were dismantled in 1996 - 1997.

The drainage ditch located to the east of the polishing pond received discharge from the pond. The ditch then conveyed water to the south approximately 650 ft to a culvert under the taxiway. Once through the culvert, the ditch historically led to a system of canals on the base which ultimately led to the Atlantic Ocean. Currently the culvert discharges into a large detention pond, which was installed after fire training activities ceased. The detention pond was designed to handle excess runoff from the new rental car facility concrete parking lots. The surface water drainage features are shown on **Figure 2-4**.

These surface water drainage ditches of potential interest located to the east and south of FT016P have been backfilled, and the surface water in the area was redirected to the same location where the effluent previously discharged under the taxiway to the south. Significant re-grading does not appear to have occurred in the area immediately surrounding the FTA, nor does USAF documentation indicate that it occurred.

Previous environmental investigations at FT016P (as recorded in the Final Focused Corrective Measures Study – FTA 4, FT 16 (Solid Waste Management Unit [SWMU]-12) and Forward Operating Location Training Area SWMU-255 – Myrtle Beach AFB dated October 2003), list various assessments for soil, groundwater and soil vapor conducted from 1994 through 2003, assessing the area for volatile organic compounds (VOCs), semi-volatile organic compounds, trichloroethylene and benzene, toluene, ethylbenzene and xylene constituents at the FT016P site. Four wells located in FT016P were included in a long-term monitoring program to monitor these constituents. Of those four wells, only one showed exceedances of benzene. As discussed in the Final Focused Corrective Measures Study, benzene concentrations in groundwater samples collected from FT16-MW10 have generally decreased over time as demonstrated by the data collected between 1998 and 2003. The May 2003 data reported benzene concentrations of 2.74 µg/L in FT16-MW10, which is below the benzene MCL of 5.0 µg/L. The most recent sampling data from 2004 also showed a benzene concentration less than 5 µg/L. SCDHEC and EPA determined that no further action (NFA) was required for FT-16 (SWMU 12). NFA determination is documented in letters from SCDHEC dated 15 April 2005 and EPA dated 1 June, 2005.

3.0 PRELIMINARY CONCEPTUAL SITE MODEL

The information in this section is based on a review of historical and regional information and does not include information obtained during this investigation.

3.1 FACILITY PROFILE

The former Myrtle Beach AFB occupied about 3,800 acres in Myrtle Beach, SC. The FT016P source area was a 100-ft diameter sandy, earthen, and diked burn pit located approximately one half mile east of the main runway, and was used for fire training exercises which involved the use and release of AFFF. The former source area and site features (mock-up aircraft, drains, drain lines, OWS and polishing pond) as shown in **Figure 2-3** were dismantled in 1996 - 1997. The area to the east of the FT016P is now used as a car rental facility. It does not appear that significant regrading has occurred in the area immediately around FT016P.

3.2 PHYSICAL PROFILE

The former Myrtle Beach AFB is located at an elevation of approximately 26 feet (ft) above mean sea level (amsl) and lies within the Atlantic Coastal Plain which is defined by flat, low-lying topography. Unpaved areas of the installation, including FT016P, consist of open grassland and wooded areas, with some areas of wetland vegetation in and around drainage ways.

3.2.1 Geology

Geology beneath the former Myrtle Beach AFB consists of 60 ft of interbedded sand, silt, clay, and marl layers that make up the Socastee, Canepatch, Waccamaw, and Bear Bluff formations, respectively. The Peedee Formation underlies the Bear Bluff Formation and is comprised of approximately 200 ft of calcareous clayey silt and fine grained sand. Underlying the Peedee Formation is the Black Creek Formation, composed of approximately 750 ft of laminated clays and very fine glauconotic, phosphatic, and micaceous sand along with thin layers of hard, calcareous sandstone. The Middendorf Formation underlines the Black Creek Formation and is composed of approximately 500 ft of medium to coarse sand and thin layers of silty clay (USAF, 1993).

3.2.2 Surface Water

Surface water flow at the former Myrtle Beach AFB is derived primarily from storm water runoff and, to a lesser extent, from water treated via a series of OWSs located at industrial facilities across the installation. The drainage system divides the former installation into a North Drainage Basin and a South Drainage Basin that discharge directly into off-base water bodies via man-made drainage ditches (**Figure 2-4**). Surface water in the North Drainage Basin, which encompasses approximately 56 percent of the drainage area, discharges into the Intracoastal Waterway, while surface water in the South Drainage Basin discharges into the Atlantic Ocean. Wetlands have also been identified throughout the former installation property and are characterized by low-lying areas with occasional standing water (USAF, 1993). Based on available topographic data and observations made at the time of the investigation, surface water at the

FT016P area generally drains south by means of sheet flow that is collected by a system of drainage ditches and stormwater conveyances to a culvert beneath the former taxiway (now Radar Road) discharging into a stormwater detention pond that lies in the area south of the site.

3.2.3 Groundwater/Hydrogeology

Four aquifers are located beneath the former installation to a depth of approximately 1,450 ft bgs, including the Shallow Water Table and Artesian Aquifer System, Peedee Aquifer, Black Creek Aquifer, and Middendorf Aquifer. Groundwater within the Shallow Water Table and Artesian Aquifer System at the installation typically occurs within a few feet bgs and extends to a depth ranging from 30 to 40 ft below mean sea level (msl), and is bounded by the find-grained layers situated at the top of the underlying Peedee Formation. Groundwater levels within this aquifer system vary geographically and seasonally, and groundwater flow is generally to the west at the former Myrtle Beach AFB. Groundwater flow in the vicinity of FT016P is to the south (**Figure 3-1)**. High pumping rates can cause the shallow system to receive recharge from surface water bodies; however, recharge is primarily through precipitation. Groundwater from this system is typically used for irrigation. The underlying Peedee Aquifer is approximately 200 ft thick and occurs within the Peedee Formation. The aquifer is predominately under artesian conditions and is recharged primarily in areas where the Peedee Formation outcrops at ground surface. Historically, the Black Creek Aquifer was the most common source of potable water in the area and was used for industrial, municipal, and domestic purposes. The Black Creek Aquifer is isolated from the Peedee Aquifer and Middendorf Aquifer by clay layers. The Middendorf Aquifer is under confining conditions and has a high salt content, thus precluding it as a potable water source (USAF, 1993). Recharge to the Black Creek Aquifer is primarily located where the formation outcrops several miles west of the installation.

3.2.4 Drinking Water Supply

The former installation maintained its own independent water supply through four wells (Wells 1, 2, 3, and 5) located at the installation (**Figure 2-2**). These wells were constructed to depths of approximately 800 ft bgs into the Peedee and Black Creek Aquifers (USAF, 1993). The former Myrtle Beach AFB and the surrounding area utilized deep groundwater wells developed in the Black Creek Aquifer for potable water until approximately 2000. At that time, the City and County provided surface water production plants located on the Waccamaw River for service to the area. All of the wells located on the installation have been closed except Well 1, located at Building 537. Well 1 is inactive, but remains available with well house and pumping equipment still intact. It is primarily used to restore water levels in area lakes.

3.3 RELEASE PROFILE

PFCs are the contaminants of concern during this investigation. PFCs were potentially released during fire training exercises that involved the use of AFFF via direct infiltration into the Shallow Water Table aquifer and surface water drainage system. Fire training exercises that used AFFF contained PFCs, which may have infiltrated and become absorbed to soils and sediments. PFCs may also have percolated through unconsolidated material to the water table aquifer. PFCs may have been directly discharged through the

drainage canal from FT016P, or infiltrated into groundwater from the unlined canals. Groundwater flows to the west toward canal discharges from the former Myrtle Beach AFB.

3.4 POTENTIAL RECEPTORS

Since closure in 1993, portions of the former installation have been subdivided and transferred to various entities. The airfield portion was transferred to the MBIA, operated by Horry County. A portion of the base has been transferred to the City of Myrtle Beach for recreational use, to the Horry-Georgetown Technical College, to the Market Common shopping and housing complex, and to other housing developers. Land use is not expected to change significantly in the future near FT016P. There is potential for commercial development south of the airfield along Highway 17 Business, and expanded housing development and commercial support activities are under construction on the west side of the former installation. Commercial and industrial aerospace related activities are proposed directly adjacent to the west side of the airfield. Potential receptors associated with current and future land use that may come into contact with PFCs in soils include: ground maintenance workers, utility workers, industrial workers, construction workers and biota.

Groundwater flow direction is generally to the west. Groundwater likely discharges to canals and unnamed streams. Receptors that could come into contact with PFCs in groundwater include biota, construction workers, and recreational users.

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4.0 SAMPLING ACTIVITIES

Sampling activities followed the QPP (AMEC, 2014) and the ISWPA (AMEC, 2015a). Standard operating procedures (SOPs) and protocols used in conducting this investigation were derived from, or were in accordance with, USEPA guidance documents. Field sampling plans in the form of addenda to the project QPP were generated detailing the activities to be conducted at FT016P. SCDHEC conditionally approved the ISWPA and issued the monitoring well approval to proceed with field work on 10 June 2015.

The following data collection activities were completed to achieve the project objectives:

- Collection and laboratory analysis of 18 primary and two duplicate soil samples from 7 soil borings drilled at FT016P where firefighting training occurred and AFFF was likely to have been used;
- Collection and laboratory analysis of 7 primary and one duplicate groundwater samples from 6 new and one existing monitoring well within and around the former FTA footprint;
- Collection and laboratory analysis of one sediment sample from a borehole in the approximate center of the drainage swale/ditch at a location approximately 15 ft upstream from the sluice gate; and,
- Collection and laboratory analysis of one water sample from the former public Water Supply Well, Well 1.

4.1 PRE-SAMPLING ACTIVITIES

A scoping visit was held at the former Myrtle Beach AFB on 29 April 2014. The purpose of this visit was to (1) review site information with the BRAC Environmental Coordinator (BEC), (2) understand site logistics so that they could be incorporated into the ISWPA, and (3) understand existing conditions so that they could be used to develop the investigation strategy and be factored into the ISWPA and subcontractor scopes of work.

Significant time was spent reviewing historical reports and figures documenting the site history at FT016P. A site walk was also conducted where the former location of the FTA burn pit and existing groundwater monitoring wells were identified. Amec Foster Wheeler attended the BRAC Cleanup Team meeting and presented a project overview of the PFC investigation to SCDHEC personnel. Amec Foster Wheeler also met with MBIA management staff to coordinate access to the FT016 site and coordinate logistics for working in secure areas of the airport.

Following the scoping visit, Amec Foster Wheeler and AFCEC held a follow-up teleconference to review the SI approach in light of the scoping visit findings. During the teleconference, Amec Foster Wheeler and AFCEC discussed the SI strategy and proposed sampling plan. Prior to field mobilization, South Carolina 811/Palmetto Utility Location Service was contacted to provide utility clearance for proposed intrusive activities at FT016P.

4.2 ENVIRONMENTAL SAMPLING

Soil, groundwater, and sediment were sampled and analyzed for PFCs. Soil sampling was conducted from 8 to 10 July 2015. Groundwater and sediment sampling was conducted on 23 and 24 July 2015. Sampling of the former public water supply well, Well 1, was conducted on 23 November 2015. A summary of the field sampling activities is provided in **Table 4-1** and is described in the following sections. A photograph log documenting investigation activities is provided in **Appendix A**. SI field forms are provided in **Appendix B** and include Daily Health and Safety Tailgate Forms (B-1), Daily PFC Checklists (B-2), Calibration Forms for testing equipment (B-3), Drilling and Soil Sample Collections Logs (B-4), Sediment Sample Collection Log (B-5), Well Construction Logs (B-6), Well Development Logs (B-7), Groundwater Sample Collection Logs (B-8), and Well 1 Sample Collection Log (B-9).

4.2.1 Soil Boring Advancement/Abandonment and Soil Sampling

Field exploration consisted of advancing seven soil borings at FT016P for lithologic analysis and analytical sample collection. Locations are shown on **Figure 4-1**. The soil sampling program was designed to assess whether PFCs are present in the soil at FT016P using the USEPA Method 537 Modified. The following bullets summarize location rationale for soil boring placement.

- MYRTL-FT016P-01 was positioned to assess soil concentrations downgradient of FT016P.
- MYRTL-FT016P-02 and MYRTL-FT016P-03 were positioned to assess source area soil concentrations.
- MYRTL-FT016P-04 was positioned to assess soil concentrations in the area of the former OWS.
- MYRTL-FT016P-05 was positioned to assess soil concentrations in the area of the former polishing pond.
- MYRTL-FT016P-06 and MYRTL-FT016P-07 were positioned to assess soil concentrations in the vicinity of the drainage ditch.

Soil borings were staked prior to clearance for underground utilities. Staked locations incorporated locations indicated in the ISWPA, with adjustments made for observed site conditions and to align with as-built drawings for the FTA. These drawings were reviewed prior to commencing field sampling activities in July 2015 (Section 4.3) in the document archives at the former Myrtle Beach AFB. Borings were drilled by SAEDACCO, of Fort Mill, South Carolina from 8 to 10 July 2015 using direct-push technology. A Geoprobe 6610DT equipped with a Macrocore™ sampler, approximately 2.5-inch (in) outside diameter and 5 ft long, was used for soil boring advancement. The Macrocore™ sampler was lined with a new acetate sleeve for each 5-ft soil core.

The first 5 ft of each borehole was cleared using a hand auger to ensure that no utility lines were present. Soil cores were collected continuously until the water table was encountered. Soil samples were collected for PFC analysis by Liquid Chromatography and Tandem Mass Spectrometry (LC-MS/MS) approximately every 3 to 5 ft, starting at the ground surface and terminating at first encounter with groundwater. Soil borings were screened with a photoionization detector (PID) to determine if there were VOCs in the soil.

Soils were logged according to SOPs provided in the QPP (AMEC, 2014). Soil samples were collected and placed in a decontaminated stainless-steel bowl, then mixed with a decontaminated stainless-steel spoon to prepare a composite sample for each sample interval. Bowls and spoons were decontaminated with an alconox/PFC free water scrub and PFC-free water rinse. Disposable gloves were changed frequently during drilling, handling of the filled sample sleeves, and in between collecting each composite sample to help prevent cross-contamination. All samples were placed in a pre-labeled high density polyethylene (HDPE) sample bottle for transport to the analytical laboratory. Soil sample collection logs were completed for each location and are provided in **Appendix B-4**. Borehole locations were backfilled using bentonite chips as required to complete the backfilling.

A drilling log documenting the soil lithology was compiled for the soil boring completed during this investigation. Copies of the drilling logs are provided in **Appendix B-4**. Based on soil logs, a geologic cross section was created. A cross section orientation is shown for fire training area soil borings MYRTL-FT016P-01 through MYRTL-FT016P-05 and the cross section is provided on **Figure 4-2.**

4.2.2 Sediment Sampling

A sediment sample was collected at one location upstream from the sluice gate as shown on **Figure 4-3**. Sediment was collected from a borehole in the approximate center of the drainage swale/ditch at a location approximately 15 ft upstream of the sluice gate. The ditch contained approximately 6 inches of storm water from recent precipitation at the time of sampling. The sample was collected from an approximate depth of 2 to 3 ft below the bottom of the drainage ditch using a decontaminated stainless-steel hand auger. The auger was advanced after placement of a decontaminated polyvinyl chloride (PVC) pipe into the bottom of the drainage ditch to serve as surface casing. The borehole was advanced after removal of standing water within the surface casing. Sediment was examined to determine the presence of obvious stratification that might serve to differentiate recently deposited material. A representative sample for analysis was collected from a discrete layer encountered at a depth of approximate 24 inches and consisted of black-grey top, black-brown to black sand, and silt containing layered organic material. The analytical sample was homogenized in a decontaminated stainless steel bowl, using a decontaminated stainless-steel spoon. The sampled sediment was placed in a pre-labeled HDPE sample bottle for transport to the analytical laboratory. A sample collection log was completed for the sediment sampling location and is provided in **Appendix B-5.**

4.2.3 Monitoring Well Installation, Development, and Sampling

Groundwater sampling to assess whether PFCs are present in first encountered groundwater beneath and downgradient of FT016P consisted of sampling six newly installed and one existing monitoring well. The following bullets summarize the rationale for groundwater sampling locations.

- MYRTL-FT016P-01 was installed as an intermediate zone well in the shallow water table aquifer to assess the area along the northwestern side of the FTA and to determine if PFCs were present in groundwater downgradient of FT016P.

- MYRTL-FT016P-02 and MYRTL-FT016P-03 were installed within the historical FT016P source area to determine if PFCs were present in the shallow groundwater beneath the site. MYRTL-FT016P-02 is located along the western edge of FTA, and MYRTL-FT016P-03 is located in the approximate location of the central sump within the FTA.
- MYRTL-FT016P-04 and MYRTL-FT016P-05 were installed in the former footprint of the OWS and effluent polishing pond, respectively. These locations were identified as secondary source areas.
- MYRTL-FT016P-06 was installed in the drainage ditch which historically received discharge from the former effluent polishing pond.
- Existing monitoring well ST49-MW02 is located along the former de-arming revetment in the wooded area across the taxiway and to the west of the FTA and was selected to determine if PFCs were present in groundwater downgradient of the site.

Groundwater elevations and monitoring well screen intervals are summarized in **Table 4-2**. SAEDACCO installed new monitoring wells: MYRTL-FT016P-01, MYRTL-FT016P-02, MYRTL-FT016P-03, MYRTL-FT016P-04, MYRTL-FT016P-05 and MYRTL-FT016P-06 at FT016P. Groundwater level measurements were collected in the wells sampled during this investigation prior to groundwater sampling. Well construction information for each new well is also provided on the well construction forms in **Appendix B-6**.

The new monitoring wells were installed using a Geoprobe model 6610DT drill rig equipped with 4.25-in inside diameter hollow stem augers. The location of the monitoring wells are shown on **Figure 4-4**. Monitoring well design was based on depth to water at time of drilling and geologic conditions encountered. The monitoring wells were constructed using 2-in diameter Schedule 40 PVC casing and 0.010-in machine slotted 2-in diameter Schedule 40 PVC well screen with 2-in diameter PVC end caps. Southern Products & Silica Co. Size 2 filter pack was installed from the bottom of the open borehole to at least 1 ft above the top of the screen interval. After placement of the filter pack was completed, a minimum 2 ft bentonite transition seal was placed above the filter pack sand. The bentonite seal was allowed to hydrate completely before placement of remaining annular materials in the borehole. The annular seal consisted of a cement bentonite grout placed from the top of the transition seal to within 3 ft of surface grade. The upper portion of the boreholes inclusive of the remaining annular space were sealed with concrete. The wells were completed at grade with 24-in concrete pads. Photographs of the well head completions are provided **Appendix A**.

The newly installed wells were developed after installation using a submersible pump (Mega Monsoon) and sampled using low-flow sampling procedures using a peristaltic pump and dedicated HPDE tubing following SOP-AMEC-05. The existing monitoring well, ST49-MW02, was re-developed prior to sampling due to the length of time elapsed since groundwater was sampled from this location. Pumps and other non-dedicated equipment were decontaminated between each well location by washing with distilled water and liquinox followed by two rinses in distilled water. Well development logs are included in **Appendix B-7**.

4.2.4 Monitoring Well Samples

Depth-to-water measurements were collected from wells sampled during this investigation and selected wells in the adjoining area. **Table 4-2** contains the depth-to-water measurements, the calculated elevation of piezometeric surface, and the screened intervals in wells used during this investigation. Groundwater elevations were calculated based on depths to groundwater measured by Amec Foster Wheeler and were used to contour potentiometric surfaces and interpret the horizontal directions of groundwater flow in the Artesian Aquifer at the site. Groundwater elevation contours are shown on **Figure 3-1** for FT016P. Groundwater was measured in monitoring wells in the vicinity of FT016P at depths ranging from 8.21 to 10.42 ft below top of casing, with calculated groundwater elevations ranging from 12.31 to 15.54 ft amsl. The direction of groundwater flow beneath FT016P in July 2015 was generally to the south (**Figure 3-1**).

The groundwater sampling program included the collection of groundwater samples for laboratory chemical analysis from the six newly installed monitoring wells and one existing monitoring well shown on **Figure 4-4**. Samples were collected on 23 and 24 July, 2015 using low-flow purging and sampling methods. Sampling incorporated the use of peristaltic pumps fitted with rigid-wall HDPE tubing and flexible Niton tubing (at the pump head). The intake end of the HDPE tubing was placed at the approximate midpoint of the water column in wells with emergent screens, and at the approximate midpoint of the screened interval in wells with submerged screens. The discharge end of the HDPE tubing was attached to a flow-through cell to monitor pH, temperature, specific conductivity, turbidity, dissolved oxygen, and oxidation/reduction potential. The water level and field parameters were monitored until stable as in accordance with SOP AMEC-03. Groundwater sampling information was documented on field groundwater sample collection logs, copies of which are provided in **Appendix B-8**. Stabilized field parameters for the groundwater samples are shown on **Table 4-3**. Sample containers were filled directly from the discharge tubing after bypassing the flow-through cell. Purge water was containerized as Investigation Derived Waste (IDW).

4.2.5 Water Supply Well Sampling

A groundwater water sample was collected from one inactive public Water Supply Well, Well 1, located on the central part of the base as shown in **Figure 4-5.** The former public water supply well is operated by the City of Myrtle Beach; however, it is not currently in use. The sample was collected from the pump house by-pass pipe by placing the pump intake into the by-pass pipe and obtaining the sample. The stabilized field parameters for the sample are shown on **Table 4-4**.

4.3 DEVIATIONS FROM THE INSTALLATION SPECIFIC WORK PLAN ADDENDUM

Completion of the field investigation required the following deviations from the ISWPA.

The installation locations for the soil boring/monitoring wells FT016P-02 through FT016P-05 were adjusted based on observed field conditions and as-built locations of the central sump within the FTA (FT016P-03), the oil-water separator (FT016P-04), and the effluent polishing pond (FT016P-05). As-built

locations were obtained from drawings in historical documents provided by personnel at the former Myrtle Beach AFB and reviewed by Amec Foster Wheeler personnel prior to commencing field activities.

The originally proposed location of monitoring well FT016P-01 was moved approximately 22 ft to the north due to the presence of utilities. Multiple step-outs were required during re-drilling of the pilot hole for this well to accommodate subsurface obstructions.

Maximum depths of the soil borings and number of soil samples collected differ from the ISWPA due to actual depth to groundwater which ranged from approximately 8 to 10 ft bgs. Four soil samples per boring were originally proposed; however, due to the shallow occurrence of groundwater, three soil samples or fewer were collected at each sampling location.

Additionally, deviations from Addendum 01 to the ISWP included the collection of a sediment sample and a groundwater sample at two locations remote from FT016P. Following the field activities completed in July 2015, the groundwater results were evaluated and it was determined that sampling of the former public water supply, Well 1, and the sediment in the drainage ditch at sluice gate location was needed due to the concentrations of PFCs detected in groundwater at the former base. The sediment sample was located in the drainage ditch at the sluice gate location and was collected in the July 2015 sampling event. The groundwater sample was collected on November 23, 2015 from the former public water supply, Well 1, and results are included in this report.

4.4 SURVEYING

Geographic coordinates for soil borings and monitoring wells were established at the time of drilling using a hand-held global positioning system unit. Monitoring wells installed for the current investigation were subsequently surveyed for geographic position and topographic elevation on 13 October 2015. Surveying was completed by LDSI, a surveyor licensed in South Carolina. Geographic coordinates were recorded for new monitoring wells used for depth-to-water measurements; however, existing groundwater monitoring wells within the FTA area were not re-surveyed. Presentation of water-level data collected from the existing wells relies upon previously established top-of-casing elevations established by others (**Table 4-2**).

4.5 INVESTIGATION-DERIVED WASTE MANAGEMENT

IDW consisted of soil cuttings from soil boring and well pilot advancement, groundwater sampling purge water, decontamination water, disposable personal protective equipment (PPE), and other trash. All IDW was containerized in labeled 55-gallon steel drums and staged on wood pallets at the FT016P site. On 25 July 2015, waste characterization samples were collected as composites from solid and liquid IDW. Analyses indicate that the IDW consists of non-hazardous wastes. (**Appendix C**).

During drilling, an aliquot of soil media was collected from every 5 ft interval drilled as the boreholes progressed to total depth. Composited soil for IDW analyses were stored in 5-gallon buckets. At the end of the drilling program, the buckets containing the IDW sample aliquots were each composited ensuring appropriate representation of collected media. The composite samples were placed into laboratory

supplied sample containers and shipped to the laboratory under chain of custody. The cuttings were disposed of as a single unit of IDW.

During well development activities and associated groundwater sampling water IDW was generated and containerized in 55-gallon drums. Decontamination water generated during the course of the investigation was segregated from the groundwater generated during the investigation and clearly labeled. The water was sampled however, as one composite waste stream. Samples were collected from decontamination water using a bailer, composited, and then decanted into sample containers provided by the laboratory. A single composite sample containing aliquots of water from each drum on site was submitted to the laboratory for analysis at the conclusion of water generating events.

Following characterization and profiling, IDW soil, water and debris was picked up on 2 June 2016 by US Ecology, Inc. for transport for offsite disposal as non-hazardous waste. Amec Foster Wheeler oversaw IDW loading for transport and disposal. Characterization laboratory analytical reports, profiles, and manifests are provided in **Appendix C**.

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5.0 SAMPLING RESULTS

All samples were analyzed for PFOS, PFOA, PFHxS, PFHpA, PFNA, and PFBS in accordance with the QPP, ISWPA, and the Interim PFC Guidance by Accutest Laboratories (Accutest), a DoD – Environmental Laboratory Accreditation Program accredited lab, located in Orlando, Florida. Accutest analyzed the samples for PFCs using USEPA Method 537 Modified (LC-MS/MS).

5.1 DATA USABILITY

Data from soil, sediment, and groundwater samples analyzed for PFCs by USEPA Method 537 were validated in September 2015. A description of the data validation scope, data validation procedures, and data validation observations and actions is presented in the data validation report in **Appendix D.** Laboratory results and signed chain of custodies are located in **Appendix E**. Data quality objectives (DQOs) for this sampling program are determining the presence or absence of PFOA and PFOS at concentrations exceeding the project actions limits of 0.4 and 0.2 µg/L, respectively, or 12 and 5 mg/kg, respectively.

Amec Foster Wheeler performed USEPA Stage 4 data validation on 10% of the samples for each media, and USEPA stage 2B on the remaining samples. Field and equipment blanks were not validated as these samples were used to assess data usability for the field samples. The validation was performed following the logic identified in The Contract Laboratory Program Data Validation Functional Guidelines for Evaluating Organic Analyses (USEPA, 2014).

All data were deemed to be useable based on the data validation findings. A subset of results was J qualified as estimated values or B qualified because of blank detections, as explained in **Appendix D**.

Qualifiers used in association with the final validated results include the following:

- B: The analyte was detected in the sample and an associated blank and the concentration detected in the sample was less than 10 times the concentration detected in the blank;
- U: The analyte was analyzed for, but was not detected above the reported limit of detection (LOD); and,
- J: The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

No results were rejected during data validation. The estimated results will be discussed for each media in the following sections. Interpretations on the effect of the validation qualification actions on data usability will be included when appropriate.

Initial calibration verification (ICV) and continuing calibration verification (CCV) standards, field blanks (FBs), matrix spike/matrix spike duplicates (MS/MSDs), and field duplicates (FDs) were analyzed for quality control measures. ICVs prepared from a second source or from a separate manufacturing batch from the standards used to construct the analytical curve. ICV recoveries help to confirm the calibration curve's performance quantifying analytes from a different source and to confirm that there was not a problem with the standards used to construct the calibration curve. CCVs are used to confirm that the calibration

curve is stable. FB samples are used to determine if sample collection, storage, preparation, and analysis systems produce false positive results due to field or lab contamination. MS/MSD samples are analyzed to evaluate recovery of analytes in a specific sample matrix. FD samples are collected to evaluate method precision by the laboratory at the time of preparation and analysis and/or sampling precision at the time of collection. These QC samples are used as data quality indicators during data validation, and evaluations from the data validation review are presented in **Appendix D**.

5.1.1 Equipment Blank Detections

Amec Foster Wheeler B qualified the detected PFOA and PFOS results from a single groundwater sample because of detections in the associated equipment blank. The detected PFOA concentration, at 0.254 µg/L was 63.5% the PAL of 0.4 µg/L and the detected PFOS concentration, at 7.25 µg/L, was more than 36 times the PAL of 0.2 µg/L. Uncertainty in the analytical results is not interpreted to adversely affect data usability for the current project DQOs.

5.1.2 Holding Times

The samples were extracted for PFCs within the QPP-specified maximum holding time of 14 days from sample collection and the extracts were analyzed within the QPP-specified maximum hold time of 28 days from extraction.

5.1.3 Initial Calibration

The initial calibrations associated with the analysis of these samples met the QPP-specified criteria of correlation coefficients greater than or equal to 0.995.

5.1.4 Initial Calibration Verification

ICV recoveries were within the QPP-specified 75% to 125% limits.

5.1.5 Surrogate Recoveries

Surrogate recoveries were within the QPP-specified 70 to 130% limits with the following exception.

- Surrogate compounds were not recovered in the diluted analysis of samples MYRTL-SO-006, MYRTL-SO-010, MYRTL-SO-011, MYRTLE-SO-007, MYRTL-SO-008, MYRTL-SO-012, MYRTL-GW-001, MYRTL-GW-002, MYRTL-GW-003, MYRTL-GW-004, MYRTL-GW-005, MYRTL-GW-006, MYRTL-GW-007, and MYRTL-GW-008. These samples were analyzed at 20-fold or higher dilutions and it is not possible to evaluate data usability for these samples based on surrogate recoveries.

5.1.6 Matrix Spikes/ Matrix Spike Duplicates

Accutest performed MS and MSD analyses on samples MYRTL-SO-019, MYRTL-GW-009, MYRTL-SD-001, and MYRTL-GW-002. Recoveries were within the QPP-specified 70 to 130% limits and precision values were less than the QPP-specified maximum of 30%, with the following exceptions:

- PFOS recoveries were high at 198% and 276% in the MS and MSD, respectively, performed on sample MYRTL-SD-001. The PFOS concentration detected in the native unspiked sample was greater than four times the spike concentration and it is not possible to evaluate data usability for this analyte based on spike recoveries.
- All compounds were significantly outside specified limits in the MS and MSD performed on sample MYRTL-GW-002. The high target analyte concentrations detected in the native unspiked sample made it necessary to analyze the MS and MSD at 500-fold dilutions. This increased the LOQ to a level greater than the spike concentration and it is not possible to evaluate data usability based on spike recoveries for these diluted MS and MSD analyses.

5.2 SOIL RESULTS

A summary of the PFC analytical results for soil is presented in **Table 5-1** and described below. **Figure 5-1** shows the concentrations of PFOS and PFOA by depth for each soil boring. The maximum depth of each soil boring was determined by the first encounter with groundwater. While PFOS and/or PFOA were detected at each soil boring location, only one detection of PFOS at FT016P-03 exceeded the soil PAL of 5 mg/kg. No concentrations exceeded the PAL for PFOA (12 mg/kg). The following bullets summarize the PFOS and PFOA results for each boring location.

- FT016P Source Area and Downgradient Area
  - MYRTL-FT016P-01 (outside and west of FTA): PFOS was detected from ground surface to 9.5 ft bgs at concentrations ranging from 0.0192 to 0.0632 mg/kg. The highest concentration was collected from ground surface to 2 ft bgs. No PFOA was detected at concentrations above the laboratory reporting limit.
  - MYRTL-FT016P-02 (west side of FTA): PFOS was detected from ground surface to 9.5 ft bgs at concentrations ranging from 1.19 to 3.44 mg/kg. PFOA was detected at depths of 0 to 9.5 ft bgs at concentrations ranging from 0.00874 J to 0.0896 mg/kg. The highest concentrations of PFOS and PFOA were in samples collected from the interval collected from 3 to 5 ft bgs.
  - MYRTL-FT016P-03 (suspected central sump): PFOS was detected from ground surface 0 to 9 ft bgs at concentrations ranging from 2.55 to 9.63 mg/kg. The highest concentration of PFOS was detected in the sample collected from 3 to 5 ft bgs and was the only sample to exceed the PAL. PFOA was detected from ground surface to 9 ft bgs at concentrations ranging from 0.0122 J to 0.0179 J mg/kg. The highest concentration of PFOA was detected in the sample collected from ground surface to 2 ft bgs.
- Secondary Source Areas
  - MYRTL-FT016P-04 (OWS footprint): PFOS was detected from ground surface to 9.8 ft bgs at concentrations ranging from 0.0572 to 0.0775 mg/kg. The highest concentration was detected in the sample collected from 3 to 5 ft bgs. PFOA was not detected.

  - MYRTL-FT016P-05 (polishing pond footprint): PFOS was detected from ground surface to 9.8 ft bgs at concentrations ranging from 0.0228 to 0.0932 mg/kg. The highest concentration was detected in the sample collected from 3 to 5 ft bgs. PFOA was not detected.
- Drainage Ditch
  - MYRTL-FT016P-06 (drainage ditch): PFOS was detected from 3 to 5 ft bgs at a concentration of 0.0347 mg/kg. PFOA was not detected above laboratory reporting limits.
  - MYRTL-FT016P-07 (drainage ditch): PFOS was detected from ground surface to 1.2 ft bgs at a concentration of 0.0113 J mg/kg. PFOA was not detected above laboratory reporting limits.

Samples MYRTL-SO-008 and MYRTL-SO-016 were collected as field duplicates during the soil sampling event. PFOS was detected in both duplicate samples below the PAL, and PFOA was detected in one duplicate sample below the PAL.

5.3 SEDIMENT RESULTS

A summary of the PFC analytical results for the sediment sample is presented in **Table 5-2.** The concentrations of PFOA and PFOS detected in the sample are shown on **Figure 5-2**. The sediment sample was collected from a borehole in the approximate center of the drainage swale/ditch at a location approximately 15 feet upstream from the sluice gate. The sample collected from the sluice gate area, MYRTL-FT016P-08, contained PFOS at a concentration of 0.984 mg/kg, well below the PAL of 5 mg/kg. PFOA was not detected at concentrations above the laboratory reporting limit.

5.4 GROUNDWATER RESULTS

A summary of the groundwater PFC sampling results is presented in **Table 5-3.** Concentrations of PFOA and PFOS in the samples are shown on **Figure 5-3**. The following bullets summarize the groundwater results from the FTA and areas surrounding the FTA.

- Source Area Wells (MYRTL-FT016P-02 and MYRTL-FTP016P-03): PFOS and PFOA were detected above the PALs in the vicinity of the source area. At MYRTL-FT016P-02, PFOS and PFOA were detected at concentrations of 2,490 µg/L and 150 µg/L, respectively. At MYRTL-FT016P-03, PFOS and PFOA were detected at concentrations of 772 and 20.5 µg/L, respectively.
- Secondary Source Area Wells (MYRTL-FT016P-04 and MYRTL-FT016P-05): PFOS was detected above the PAL in each well. At MYRTL-FT016P-04, PFOS was detected at concentrations of 13.1 and 15.6 µg/L in the primary and duplicate samples, respectively. At MYRTL-FT016P-05, PFOS was detected at concentrations of 153 and 14.9 µg/L in the primary and duplicate samples, respectively. PFOA was detected above the PAL at MYRTL-FT016P-04 in the primary and duplicate samples at concentrations of 0.905 and 0.809 µg/L, respectively. At MYRTL-FT016P-05, the PFOA was detected above the PAL at a concentration of 10 µg/L.
- Downgradient Well (MYRTL-FT016P-06): PFOS was detected at concentrations of 14.9 µg/L, and PFOA was detected below the PAL at a concentration of 0.288 µg/L.

- Up-gradient Wells (MYRTL-FT016P-01 and ST49-MW02): PFOS and PFOA were both detected above the PALs in MYRTL-FT016P-01 at concentrations of 31.5 and 1.79 µg/L, respectively. At ST49-MW02, PFOS was detected above the PAL at 7.25 B µg/L and PFOA was detected below the PAL at 0.254 B µg/L. Both detections at ST49-MW02 were marked with a B qualifier, indicating the analyte was found in an associated equipment blank.

5.5 WATER SUPPLY WELL RESULTS

A summary of the former public water supply well PFC sampling results is presented in **Table 5-4** and shown on **Figure 5-4**. The well sample was collected from a former public water supply well, Well 1, located in the central area of the base. The analytical results indicated that PFOS and PFOA were not detected above the laboratory reporting limit.

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6.0 DISCUSSION OF RESULTS

The data quality objectives, to determine if a confirmed release of PFCs has occurred, outlined in **Worksheet # 11** of the General QPP (AMEC, 2014) have been met. PFCs are present in all three media sampled. PFOS and PFOA were detected above their respective PALs in groundwater. PFOS was detected above the PAL and PFOA was detected below the PAL in soil. PFOS was detected below the PAL in sediment.

Other PFCs (PFBS, PFHpA, PFHxS, and PFNA) were also found at concentrations above detection limits. However, since no PALs are established for these compounds, these sample results are included only in the analytical summary tables.

The specific objectives of this investigation, as stated in the introduction of this report, are listed below in italics. They are followed by a bulleted summary of how each objective was met and considerations of potential data gaps.

1. *Assess whether there are PFCs in surface soil, subsurface soil, and groundwater at primary source areas at FT016P from past use of AFFF at the site for fire-fighting training.*
    - PFOS was detected in one subsurface soil sample at MYRTL-FT016P-03 at a concentration above the PAL (9.63 mg/kg). PFOS and PFOA were detected in surface and subsurface soil samples at concentrations below their respective PALs at MYRTL-FT016P-02.
    - PFOS and PFOA were detected in groundwater at concentrations above their respective PALs. The highest concentrations were 2,490 µg/L for PFOS and 150 µg/L for PFOA, at MYRTL-FT016P-02.
2. *Assess whether PFCs are in surface soil, subsurface soil, and groundwater in secondary source areas and drainage areas downstream from the site, associated with site runoff or direct discharge.*
    - PFOS was detected at concentrations below the PAL in surface and subsurface soil samples collected in the areas of the former OWS, effluent polishing pond, and drainage ditch. PFOA was not detected in the soil samples at concentrations above the laboratory reporting limit.
    - PFOS and PFOA were detected above their PALs in groundwater samples collected in the areas of the former OWS and effluent polishing pond. PFOS was detected above the PAL, and PFOA was detected below the PAL in the groundwater sample collected in the drainage ditch.
3. *Assess whether PFCs are in groundwater that have migrated downgradient of FT016P.*
    - PFOS was detected at concentrations above the PAL in downgradient wells MYRTL-FT016P-01 and ST49-MW02. PFOA was detected above the PAL at MYRTL-FT016P-01 and below the PAL at ST49-MW02.
4. *Assess whether PFCs are present in sediment upstream of the sluice gate.*
    - PFOS was detected below the PAL in the sediment sample, and PFOA was not detected at concentrations above the laboratory reporting limit.

5. *Assess whether PFCs are present in the former public Water Supply Well, Well 1.*
    - Neither PFOS nor PFOA was detected in Well 1 at concentrations above the laboratory reporting limit.

Based on PFOS and PFOA concentrations in groundwater exceeding the PALs at FT0016P, the Air Force will provide notification to the landowner of the results and include guidance on handling impacted groundwater during future property development activities.

There is an additional investigation planned at former Myrtle Beach AFB to evaluate other locations at the former installation where AFFF may have been released. Any further investigation of FT016P and the other potential release locations will be addressed in future work plans.

Prior to performing future investigations, the Air Force will provide advance notice of sampling activities to the property owner. At the completion of future investigation activities, the Air Force will provide the property owner with the results of the investigation and guidance for handling any impacted media during property development activities.

6.1 UPDATED CONCEPTUAL SITE MODEL

The Conceptual Site Model (CSM) summarizes the constituents of concern and provides a description of the physical characteristics and the migration tendencies of each chemical of interest within the environment. The purpose of the CSM is to understand overall site conditions. Based on data collected during this site investigation, the CSM has been updated from the preliminary CSM presented in **Worksheet #10** of the ISWPA (AMEC, 2015a) and described in **Section 3.0**. The updated CSM is provided on **Table 6-1**. The CSM has limitations in that not all aspects of it were revisited as part of the scope of this SIR. Limitations include water level data over time and groundwater flow direction. The following is a brief summary of the updated CSM.

PFCs were detected in the groundwater samples collected from each of the monitoring wells; in the soil samples collected within the FTA; and in the sediment sample collected in the drainage ditch. The results of the SI indicate that the PFCs are present in the three media analyzed. Additionally, investigation of the nearby former public Water Supply Well, Well 1, which represents the groundwater in the deeper aquifer indicates that PFCs are not present in the deeper groundwater. Therefore, the pathway to human receptors through the drinking water well does not appear to be complete at this time.

7.0 REFERENCES

AMEC, 2014. *Final (Revision 1), PFCs Release Determination at Multiple BRAC Bases, Quality Program Plan (QPP), Contract FA8903-08-D-8766, Task Order 0177*. July.

AMEC, 2015a. *Final Installation Specific Work Plan Addendum: Former Myrtle Beach Air Force Base (Perfluorinated Compounds [PFCs] Release Determination at Multiple BRAC Bases)*. July.

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USAF, 1993. *Final Environmental Impact Statement, Disposal and Reuse of Myrtle Beach Air Force Base, South Carolina*. June.

USAF, 2012. *Interim USAF Guidance on Sampling and Response Actions for Perfluorinated Compounds at Active and Base Realignment and Closure Installations*. August.

USEPA, 2009. *Provisional Health Advisories for Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS)*. January.

USEPA, 2012a. *Uniform Federal Policy Quality Assurance Project Plan*. March.

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USEPA, 2014. *Contract Laboratory Program Data Validation Functional Guidelines for Evaluating Organic Analyses*.

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FIGURES



NOTES:
Base map data obtained from ESRI Online Services.

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FIGURE 2-1
Installation Location
Site Investigation Report
Former Myrtle Beach Air Force Base, Myrtle Beach, South Carolina

0 1,250 2,500 5,000 7,500 10,000 12,500 Meters
0 10,000 20,000 30,000 40,000 Feet

02/05/2016	Myrtle_Beach_AFB_Install_Loc_SIRpt	
PROJ: 775290177	Drawn: JBO	



SYMBOL KEY

- Water Well
- Stream
- FTA Boundary
- Former Myrtle Beach AFB Installation Area
- Drainage Basin Boundary
- FTA Boundary

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FIGURE 2-2
Installation Layout Map
Site Investigation Report
Former Myrtle Beach Air Force Base, Myrtle Beach, South Carolina

0 90 180 360 540 720 900 1,080 1,260 1,440 1,620 1,800 Meters
0 750 1,500 3,000 4,500 6,000 Feet

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

01/19/2016 | Myrtle_Beach_AFB_Site_Map_SIRpt
Drawn: JBO | PROJ: 775290177



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FIGURE 2-3
Historical Fire Training Area Site Layout
Installation-specific Work Plan Addendum
Former Myrtle Beach Air Force Base, Myrtle Beach, South Carolina

0 10 20 40 60 80 100 120 Meters
0 50 100 200 300 400 Feet

NOTES:
1994 aerial imagery source: Google Earth

03/14/2016	Myrtle_Beach_FT016P_Layout_SIR
Drawn: JBO & AOS	PROJ: 775290177

SYMBOL

- General Surface Water Flow Direction within Basin
- Drainage Ditch w/ Flow Direction (1992 Baseline Survey)*
- Drainage Basin Boundary
- Fire Training Area Boundary
- Former Myrtle Beach AFB Installation Area

*Environmental Baseline Survey, Myrtle Beach Air Force Base, South Carolina, Engineering-Science, Inc., November 1992

Intercoastal Waterway

NORTH BASIN

SOUTH BASIN

FT016P

Stormwater Detention Pond

ATLANTIC OCEAN

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FIGURE 2-4
Surface Water Drainage Features
Site Investigation Report
Former Myrtle Beach Air Force Base, Myrtle Beach, South Carolina

0 250 500 1,000 1,500 2,000 2,500 3,000 Meters

0 1,000 2,000 4,000 6,000 8,000 10,000 Feet

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03/15/2016

Myrtle_Beach_Surf_Water_Flow_SIRpt

Drawn: JBO

PROJ: 775290177

SYMBOL

- Exisitng Well (Sampled)
- Existing Well
- Monitoring Well & Soil Boring
- Former Oil-Water Separator
- Groundwater Contour (ft msl) *
- Historical Drainage Line (with flow direction)
- Fire Training Area Boundary
- Former Burn Pit
- Former Building Outline

* = Water levels used for contouring

Groundwater Flow Direction

AOC1-MW03
AOC1-MW09
AOC1-MW08
AOC1-MW01R
AOC1-MW05
FT016P
AOC1-MW10
AOC1-MW04
MYRTL-FT016P-04
13.42
AOC1-MW02
MYRTL-FT016P-05 *
13.38
MYRTL-FT016P-01 *
13.36
MYRTL-FT016P-03 *
13.24
ST49-MW02 *
14.78
Former Polishing Pond
14.5
14
MYRTL-FT016P-02 *
13.12
Former FT016P Burn/Extinguish Location
FT16-MW12
13.5
13
12.5
MYRTL-FT016P-06 *
12.31

Air Force Civil Engineer Center 2261 Hughes Avenue Building 171, Ste 155 JBSA Lackland, Texas 78236	N	**FIGURE 3-1** **FT016P Groundwater Elevations (March 2015)** Site Investigation Report Former Myrtle Beach Air Force Base, Myrtle Beach, South Carolina	
0 10 20 40 60 80 100 120 Meters 0 50 100 200 300 400 Feet		Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community	07/01/2016 Drawn: JBO	Myrtle_Beach_FT016P_Potentio_SIR_new_working PROJ: 775290177

SYMBOL KEY

- Soil Boring
- Former Oil-Water Separator
- Historical Drainage Line (with flow direction)
- Fire Training Area Boundary
- Former Burn Pit
- Former Building Outline

FT016P

MYRTL-FT016P-01

MYRTL-FT016P-02

MYRTL-FT016P-03

MYRTL-FT016P-04

MYRTL-FT016P-05

MYRTL-FT016P-06

MYRTL-FT016P-07

Former Polishing Pond

Former FT016P Burn/Extinguish Location

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0 10 20 40 60 80 100 120 Meters

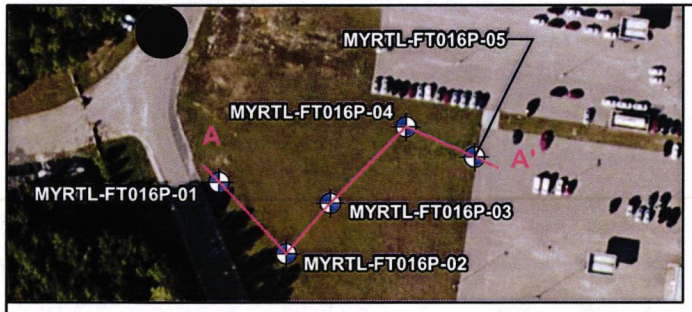
0 50 100 200 300 400 Feet

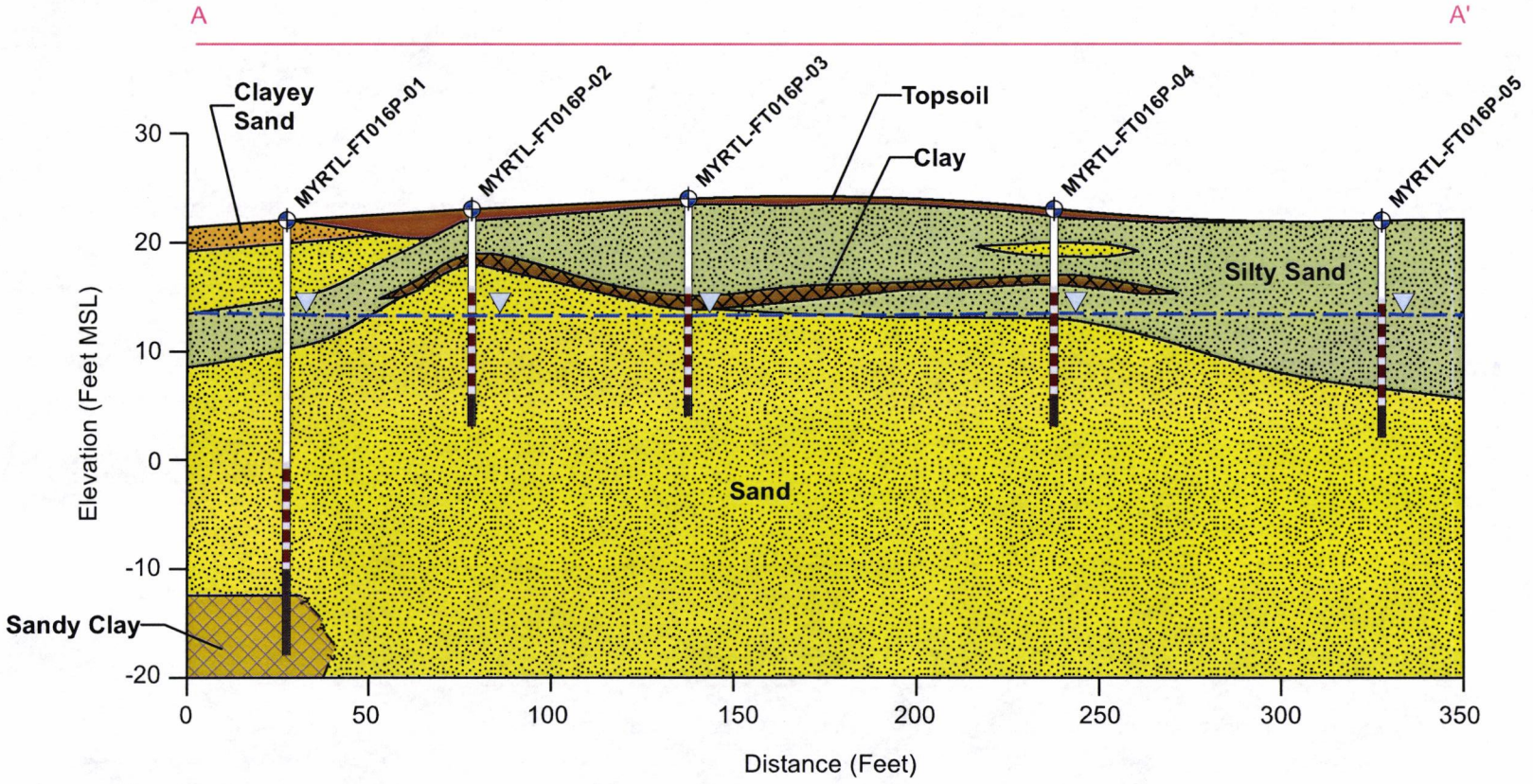
FIGURE 4-1
FT016P Soil Sample Locations

Site Investigation Report
Former Myrtle Beach Air Force Base, Myrtle Beach, South Carolina

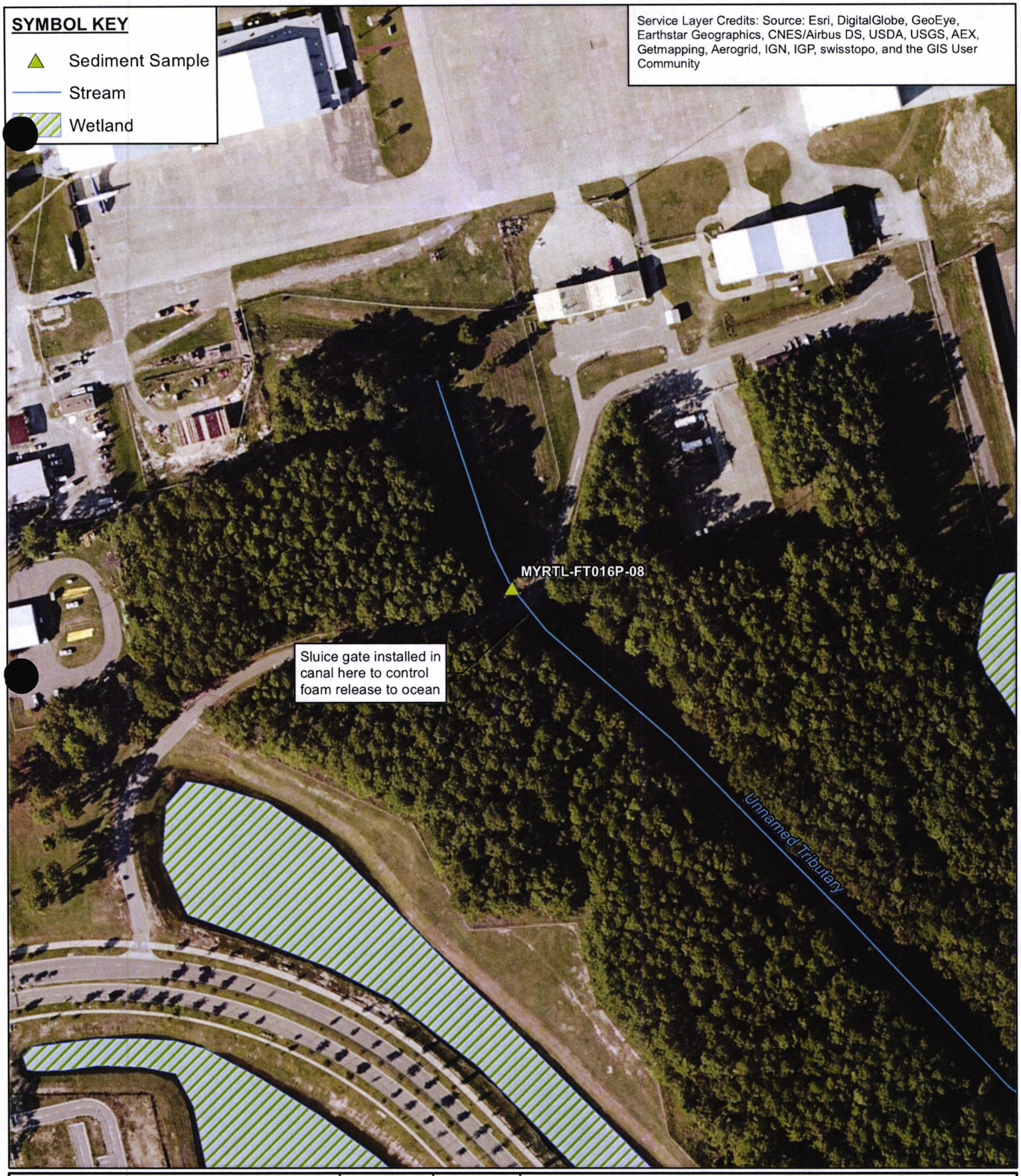
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

02/05/2016	Myrtle_Beach_Soil_Samp_Loc_SIRpt
Drawn: JBO	PROJ: 775290177





Air Force Civil Engineer Center 2261 Hughes Avenue Building 171, Ste 155 JBSA Lackland, Texas 78236		N	**Figure 4-2** **Geologic Cross Section** Site Investigation Report Former Myrtle Beach Air Force Base, Myrtle Beach, South Carolina	**Symbol Key** Monitoring Well Borehole Borehole - Collapsed Prior to Well Installation Screen Water Table
-SCALE AS SHOWN- Vertical Exaggeration: x3			03/09/2016 | Myrtle_Beach_X_Section_SI_Rpt PROJ: 775290177 | Drawn: JBO	



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FIGURE 4-3
Sediment Sample Location
Site Investigation Report
Former Myrtle Beach Air Force Base, Myrtle Beach, South Carolina

0 40 80 120 160 200 Meters
0 200 400 600 800 Feet

02/05/2016	Myrtle_Beach_Sediment_Samp_Loc_SIRpt
PROJ: 775290177	Drawn: JBO

SYMBOL

- Legacy Well (Sampled)
- Legacy Well (Not Sampled)
- Monitoring Well
- Former Oil-Water Separator
- Historical Drainage Line (with flow direction)
- Former Burn Pit
- Fire Training Area Boundary
- Former Building Outline

AOC1-MW03
AOC1-MW09
AOC1-MW08
AOC1-MW01R
AOC1-MW05
FT016P
AOC1-MW10
AOC1-MW04
MYRTL-FT016P-04
MYRTL-FT016P-05
AOC1-MW02
MYRTL-FT016P-01
ST49-MW02
MYRTL-FT016P-03
Former Polishing Pond
MYRTL-FT016P-02
Former FT016P Burn/Extinguish Location
FT16-MW12
MYRTL-FT016P-06

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FIGURE 4-4
FT016P Groundwater Sample Locations
Site Investigation Report
Former Myrtle Beach Air Force Base, Myrtle Beach, South Carolina

0 10 20 40 60 80 100 120 Meters
0 50 100 200 300 400 Feet

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07/01/2016

Myrtle_Beach_GW_Samp_Loc_SIRpt

Drawn: JBO

PROJ: 775290177



SYMBOL KEY

- Water Well
- Stream
- FTA Boundary
- Former Myrtle Beach AFB Installation Area
- Drainage Basin Boundary
- Regional Groundwater Flow
- Localized Groundwater Flow

NOTE:
Groundwater results in µg/L
Project Action Limits = 0.2 µg/L (PFOS) & 0.4 µg/L (PFOA)
J = Estimated detect at concentration shown.
U = Non-detect at reporting limit shown

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0 90 180 360 540 720 900 1,080 1,260 1,440 1,620 1,800 Meters

0 750 1,500 3,000 4,500 6,000 Feet

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01/19/2016

Drawn: JBL

Myrtle_Beach_Well_1_Loc_SIRpt

PROJ: 775290177

FIGURE 4-5
Well 1 Sample Location
Site Investigation Report
Former Myrtle Beach Air Force Base, Myrtle Beach, South Carolina

SYMBOL

- Soil Boring
- Former Oil-Water Separator
- Historical Drainage Line (with flow direction)
- Fire Training Area Boundary
- Former Burn Pit
- Former Building Outline

Notes:
Soil results in milligrams per kilogram (mg/kg)
Project Action Limits: 5 mg/kg (PFOS) & 12 mg/kg (PFOA)
= Value Exceeds Action Limit
[A] Value obtained from field duplicate sample (higher concentration)

FT016P

MYRTL-FT016-04-SB		
Depth	PFOS	PFOA
0.0-2.0	0.0572	0.014 U
3.0-5.0	0.0775	0.021 U
3.0-5.0	0.0728 [A]	0.02 U [A]

MYRTL-FT016-05-SB		
Depth	PFOS	PFOA
0.0-2.0	0.0228	0.02 U
3.0-5.0	0.0932	0.015 U
7.8-9.8	0.0785	0.019 U

MYRTL-FT016-03-SB		
Depth	PFOS	PFOA
0.0-2.0	2.55	0.0179 J
3.0-5.0	**9.63**	0.0161 J
7.0-9.0	4.09	0.0122 J

Former Polishing Pond

MYRTL-FT016-01-SB		
Depth	PFOS	PFOA
0.0-2.0	0.0632	0.015 U
3.0-5.0	0.0192	0.016 U
8.0-9.5	0.0353	0.015 U

MYRTL-FT016-02-SB		
Depth	PFOS	PFOA
0.0-2.0	1.19	0.00874 J
3.0-5.0	3.44	0.0896
7.5-9.5	2.61 [A]	0.0566

Former FT016P Burn/Extinguish Location

MYRTL-FT016-06-SB		
Depth	PFOS	PFOA
0.0-2.0	0.01 U	0.02 U
3.0-5.0	0.0347	0.014 U

MYRTL-FT016-07-SB		
Depth	PFOS	PFOA
0.0-1.2	0.0113 J	0.033 U

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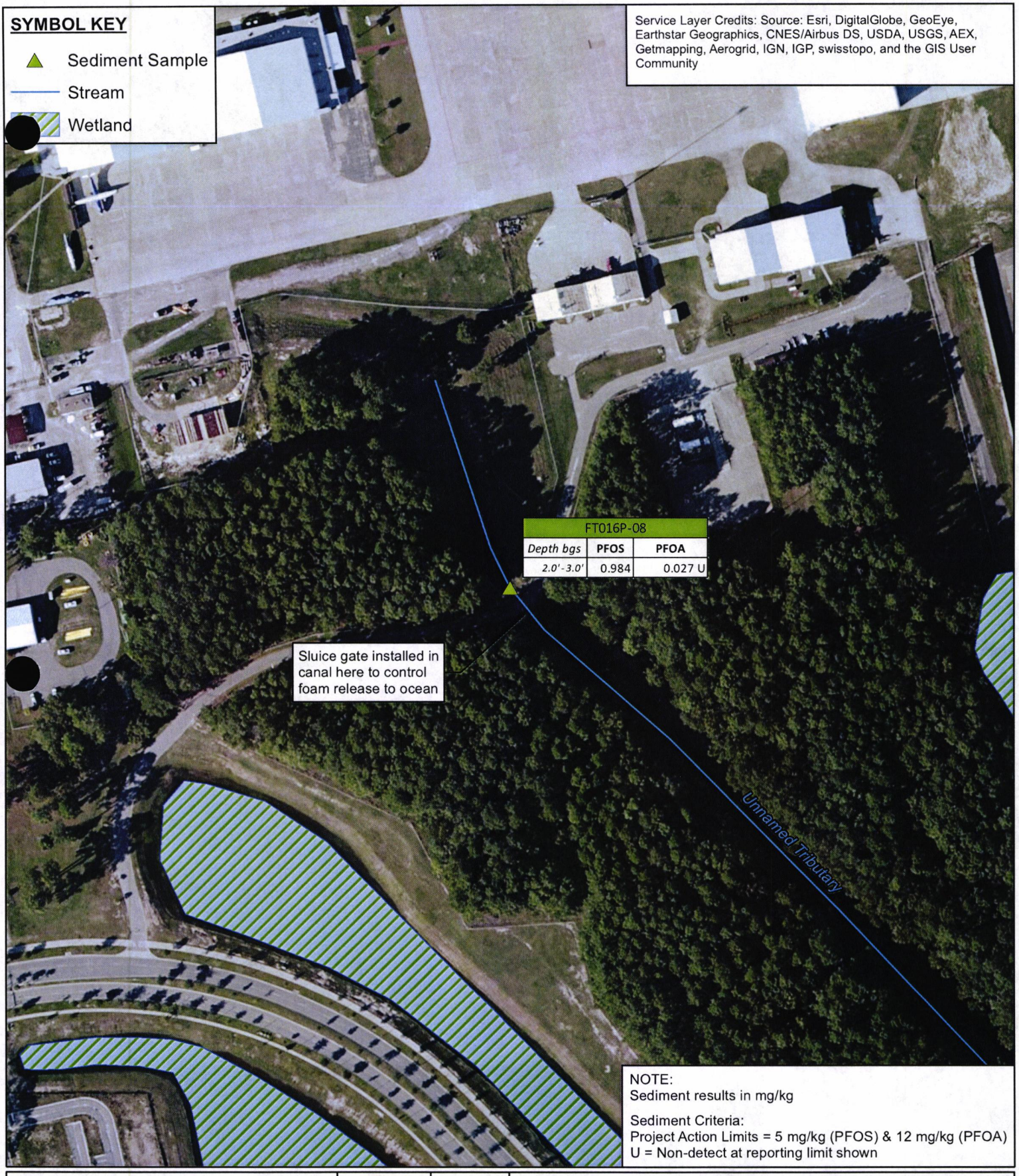
0 10 20 40 60 80 100 120 Meters
0 50 100 200 300 400 Feet

FIGURE 5-1
FT016P Soil Sample Analytical Results for PFOS and PFOA
Site Investigation Report
Former Myrtle Beach Air Force Base, Myrtle Beach, South Carolina

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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FIGURE 5-2
Sediment Sample Analytical Results for PFOS and PFOA
Site Investigation Report
Former Myrtle Beach Air Force Base, Myrtle Beach, South Carolina

0 40 80 120 160 200 Meters
0 200 400 600 800 Feet

03/15/2016	Myrtle_Beach_Sediment_Results_SIRpt	
PROJ: 775290177	Drawn: JBO	

SYMBOL

- Legacy Well (Sampled)
- Monitoring Well
- Former Oil-Water Separator
- Historical Drainage Line (with flow direction)
- Former Burn Pit
- Fire Training Area Boundary
- Former Building Outline

Notes:
Groundwater results in micrograms per liter (µg/L)
Project Action Limits: 0.2 µg/L (PFOS) & 0.4 µg/L (PFOA)
= Value Exceeds Action Limit
[A] Value obtained from field duplicate sample (higher concentration)

FT016P

MYRTL-FT016P-04		
Depth bgs	PFOS	PFOA
8.0'-18.0'	15.6[A]	0.905[A]

MYRTL-FT016P-05		
Depth bgs	PFOS	PFOA
7.0'-17.0'	153	10

MYRTL-FT016P-01		
Depth bgs	PFOS	PFOA
22.0'-32.0'	31.5	1.79

MYRTL-FT016P-03		
Depth bgs	PFOS	PFOA
8.0'-18.0'	772	20.5

ST49-MW02		
Depth bgs	PFOS	PFOA
6.5'-16.5'	7.25 B	0.254 B

MYRTL-FT016P-02		
Depth bgs	PFOS	PFOA
7.0'-17.0'	2490	150

Former Polishing Pond

Former FT016P Burn/Extinguish Location

MYRTL-FT016P-06		
Depth bgs	PFOS	PFOA
4.0'-14.0'	14.9	0.288

Air Force Civil Engineer Center
2261 Hughes Avenue
Building 171, Ste 155
JBSA Lackland, Texas 78236

N

0 10 20 40 60 80 100 120 Meters

0 50 100 200 300 400 Feet

FIGURE 5-3
FT016P Groundwater Sample Analytical Results for PFOS and PFOA
Site Investigation Report
Former Myrtle Beach Air Force Base, Myrtle Beach, South Carolina

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

02/05/2016

Myrtle_Beach_GW_Results_SIRpt

Drawn: JBO

PROJ: 775290177



SYMBOL KEY

- Water Well
- Stream
- FTA Boundary
- Former Myrtle Beach AFB Installation Area
- Drainage Basin Boundary
- Regional Groundwater Flow
- Localized Groundwater Flow

NOTE:
Groundwater results in µg/L
Project Action Limits = 0.2 µg/L (PFOS) & 0.4 µg/L (PFOA)
J = Estimated detect at concentration shown.
U = Non-detect at reporting limit shown

Air Force Civil Engineer Center
2261 Hughes Avenue
JBSA Lackland, Texas 78236

N

0 90 180 360 540 720 900 1,080 1,260 1,440 1,620 1,800 Meters
0 750 1,500 3,000 4,500 6,000 Feet

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

FIGURE 5-4
Well 1 Sample Analytical Results for PFOS and PFOA
Site Investigation Report
Former Myrtle Beach Air Force Base, Myrtle Beach, South Carolina

01/19/2016	Myrtle_Beach_Well_1_Results_SIRpt
Drawn: JBL	PROJ: 775290177

TABLES

Ta -1
PFC Potential Constituents o. oncern and Guidance Values
PFC Release Determination
Site Investigation Report, Former Myrtle Beach Air Force Base, South Carolina

Guidance Values	USAF Project Action Limit[(a)]	
	Groundwater	Soil and Sediment
PFC Constituent	µg/L	mg/kg
Perfluorooctanesulfonic acid (PFOS)	0.2	5
Perfluorooctanoic acid (PFOA)	0.4	12
Perfluorohexanesulfonic acid (PFHxS)	none	none
Perfluoroheptanoic acid (PFHpA)	none	none
Perfluorononanoic acid (PFNA)	none	none
Perfluorobutanesulfonic acid (PFBS)	none	none

Notes and Abbreviations:

(a) United States Air Force (USAF) Project Action Limits are adopted from the United States Environmental Protection Agency, Office of Water 2009 Provisional Health Advisory values. No values have been developed for PFCs other than PFOS and PFOA.

mg/kg = milligrams per kilogram
PFC = perfluorinated compound
µg/L = microgram per liter

Ta -1
PFC Sampling Summary
PFC Release Determination
Site Investigation Report, Former Myrtle Beach Air Force Base

Site ID	Monitoring Well Installations	Soil Borings	Soil	Groundwater	Sediment
FT016P	6	7	18	7	0
Well 1	0	0	0	1	0
Sluice gate	0	0	0	0	1
Totals	**6**	**7**	**18**	**8**	**1**
QA/QC Samples	Field Duplicates (1:10 samples)		2	1	0
	Equipment Blanks		0	3	0
	Field Blank*		0	1	
	MS/MSD		1	2	1
	Grand Totals		**21**	**15**	**2**

Notes:
Field Blank is sample of PFC-free water.
ID = Identification
MS/MSD = Matrix Spike / Matrix Spike Duplicate
QA/QC = Quality Assurance / Quality Control

Table 4-2
Groundwater Elevations and Monitoring Well Screen Intervals
PFC Release Determination
Site Investigation Report, Former Myrtle Air Force Base, South Carolina

Location ID	Northing	Easting	Screen Interval (ft bgs)	Depth to Water (ft below top of casing)	Top of Casing Elevation (ft above MSL)	Water Elevation (ft above MSL)
FT016P-01	3727905	692712	22-32	8.65	22.01	13.36
FT016P-02	3727880	692735	7-17	10.02	23.14	13.12
FT016P-03	3727898	692750	8-18	10.42	23.66	13.24
FT016P-04	3727924	692777	8-18	9.64	23.06	13.42
FT016P-05	3727914	692801	7-17	8.36	21.74	13.38
FT016P-06	3727723	692787	4-14	8.21	20.52	12.31

Notes:
bgs = Below ground surface
ft = Feet
ID = Identification
MSL = Mean Sea Level
Northings/Eastings are in State Plane NAD83 feet, Illinois East (FIPSZONE 1201)

Ta -3
Groundwater Samp...g - Field Parameters
PFC Release Determination
Site Investigation Report - Former Myrtle Beach Air Force Base

Location ID	Sample ID	Date	Initial Sample Depth	Final Sample Depth	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mv)	pH	Specific Conductance (ms/CM)	Temperature (Celsius)	Turbidity (ntu)
FT016P-01-GW	MYRTL-GW-001	7/23/2015	22	32	1.52	-37	5.91	0.326	23.48	6.1
FT016P-02-GW	MYRTL-GW-002	7/24/2015	7	17	0	-9	4.49	0.24	21.32	41.8
FT016P-03-GW	MYRTL-GW-003	7/23/2015	8	18	1.19	45	5.45	0.519	25.16	7.1
FT016P-04-GW	MYRTL-GW-004	7/23/2015	8	18	1.11	7	5.54	0.435	26.11	7.9
	MYRTL-GW-005									
FT016P-05-GW	MYRTL-GW-006	7/23/2015	7	17	0.91	-59	5.84	0.73	26.72	7.6
FT016P-06-GW	MYRTL-GW-007	7/24/2015	4	14	1.35	302	3.69	0.073	24.61	119
ST49MW02	MYRTL-GW-008	7/23/2015	6.5	16	0	-4	5.51	0.08	22.66	26.5

Notes:
ID = identification
ms/CM = millisiems per centimeter
ntu = nephelometric turbidity unit
mg/L = milligrams per liter
mv = millivolts

Ta -4
Groundwater Sampling - Well 1 Field Parameters
PFC Release Determination
Site Investigation Report - Former Myrtle Beach Air Force Base

Location ID	Sample ID	Date	Initial Sample Depth	Final Sample Depth	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH	Specific Conductance (mS/cm)	Temperature (Celsius)	Turbidity (NTU)
Well_1	Well 1	23-Nov-15	NA	NA	3.87	384.5	8.75	1.065	19.92	2.53

Notes:
ID = identification
mS/cm = millisiems per centimeter
NTU = nephelometric turbidity unit
mg/L = milligrams per liter
mV = millivolts
n/a = not applicable

Table 5-1
Summary of Soil Analytical Testing Results
PFC Release Determination
Site Investigation Report, Former Myrtle Beach Air Force Base, South Carolina

				Analyte:	Perfluorobutanesulfonic acid (PFBS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanesulfonic acid (PFHxS)	Perfluorononanoic acid (PFNA)	Perfluorooctanesulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)
				Project Action Limit:	NA	NA	NA	NA	5	12
Location	**Sample ID**	**Sample Date**	**Sample Depth (ft.)**	**Sample Type**	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
FT016P-01-SB	MYRTL-SO-001	08-Jul-15	0.0-2.0	N	0.0074 U	0.0074 U	0.0356	0.0074 U	0.0632	0.015 U
	MYRTL-SO-002	08-Jul-15	3.0-5.0	N	0.0079 U	0.0079 U	0.00515 J	0.0079 U	0.0192	0.016 U
	MYRTL-SO-003	08-Jul-15	8.0-9.5	N	0.0077 U	0.0077 U	0.0077 U	0.0077 U	0.0353	0.015 U
FT016P-02-SB	MYRTL-SO-005	09-Jul-15	0.0-2.0	N	0.0079 U	0.00698 J	0.018	0.00439 J	1.19	0.00874 J
	MYRTL-SO-006	09-Jul-15	3.0-5.0	N	0.00712 J	0.0213	0.413	0.0089 U	3.44	0.0896
	MYRTL-SO-007	10-Jul-15	7.5-9.5	N	0.0121	0.0137	0.373	0.0087 U	2.54	0.0566
	MYRTL-SO-008	10-Jul-15	7.5-9.5	FD	0.0115 J	0.0136	0.371	0.0094 U	2.61	0.0556
FT016P-03-SB	MYRTL-SO-010	09-Jul-15	0.0-2.0	N	0.0072 U	0.0072 U	0.0404	0.00567 J	2.55	0.0179 J
	MYRTL-SO-011	09-Jul-15	3.0-5.0	N	0.0086 U	0.0086 U	0.0686	0.0086 U	**9.63**	0.0161 J
	MYRTL-SO-012	10-Jul-15	7.0-9.0	N	0.0088 U	0.0088 U	0.037	0.0088 U	4.09	0.0122 J
FT016P-04-SB	MYRTL-SO-014	09-Jul-15	0.0-2.0	N	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0572	0.014 U

Notes:
Purple Shaded = Exceeds Project Action Limit
FD = Field Duplicate Sample
ft = Feet
ID = Identification
J = The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
N = Normal Field Sample
NA = Not applicable
U = The analyte was analyzed for, but was not detected above the reported limit of detection (LOD).
mg/kg = milligrams per kilogram

Project Action Limit = AFCEC-calculated screening values for soils and sediments derived from Office of Superfund Remediation and Technology Innovation (OSRTI) residential and direct contact criteria.

Table 5-1
Summary of Soil Analytical Testing Results
PFC Release Determination
Site Investigation Report, Former Myrtle Beach Air Force Base, South Carolina

				Analyte:	Perfluorobutanesulfonic acid (PFBS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanesulfonic acid (PFHxS)	Perfluorononanoic acid (PFNA)	Perfluorooctanesulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)
				Project Action Limit:	NA	NA	NA	NA	5	12
Location	**Sample ID**	**Sample Date**	**Sample Depth (ft.)**	**Sample Type**	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
FT016P-04-SB	MYRTL-SO-015	09-Jul-15	3.0-5.0	N	0.011 U	0.011 U	0.011 U	0.011 U	0.0775	0.021 U
	MYRTL-SO-016	09-Jul-15	3.0-5.0	FD	0.0095 U	0.0095 U	0.0095 U	0.0095 U	0.0728	0.019 U
	MYRTL-SO-017	10-Jul-15	7.8-9.8	N	0.0098 U	0.0098 U	0.0098 U	0.0098 U	0.0654	0.02 U
FT016P-05-SB	MYRTL-SO-019	10-Jul-15	0.0-2.0	N	0.01 U	0.01 U	0.01 U	0.01 U	0.0228	0.02 U
	MYRTL-SO-020	10-Jul-15	3.0-5.0	N	0.0073 U	0.0073 U	0.0073 U	0.0073 U	0.0932	0.015 U
	MYRTL-SO-021	10-Jul-15	7.8-9.8	N	0.0093 U	0.0093 U	0.0093 U	0.0093 U	0.0785	0.019 U
FT016P-06-SB	MYRTL-SO-023	10-Jul-15	0.0-2.0	N	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U
	MYRTL-SO-024	10-Jul-15	3.0-5.0	N	0.0071 U	0.0071 U	0.0071 U	0.0071 U	0.0347	0.014 U
FT016P-07-SB	MYRTL-SO-027	10-Jul-15	0.0-1.2	N	0.017 U	0.017 U	0.017 U	0.017 U	0.0113 J	0.033 U

Notes:
Purple Shaded = Exceeds Project Action Limit
FD = Field Duplicate Sample
ft = Feet
ID = Identification
J = The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
N = Normal Field Sample
NA = Not applicable
U = The analyte was analyzed for, but was not detected above the reported limit of detection (LOD).
mg/kg = milligrams per kilogram

Project Action Limit = AFCEC-calculated screening values for soils and sediments derived from Office of Superfund Remediation and Technology Innovation (OSRTI) residential and direct contact criteria.

Table 5-2
Summary of Sediment Analytical Testing Results
PFC Release Determination
Site Investigation Report, Former Myrtle Beach Air Force Base, South Carolina

				Analyte:	Perfluorobutanesulfonic acid (PFBS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanesulfonic acid (PFHxS)	Perfluorononanoic acid (PFNA)	Perfluorooctanesulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)
				Project Action Limit:	NA	NA	NA	NA	5	12
Location	**Sample ID**	**Sample Date**	**Sample Depth (ft.)**	**Sample Type**	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
FT016P-08	MYRTL-SD-001	24-Jul-15	2.0-3.0	N	0.014 U	0.014 U	0.014 U	0.014 U	0.984	0.027 U

Notes:
Purple Shaded = Exceeds Project Action Limit
FD = Field Duplicate Sample
ft = Feet
ID = Identification
N = Normal Field Sample
NA = Not applicable
U = The analyte was analyzed for, but was not detected above the reported limit of detection (LOD).

mg/kg = milligrams per kilogram

Project Action Limit = AFCEC-calculated screening values for soils and sediments derived from Office of Superfund Remediation and Technology Innovation (OSRTI) residential and direct contact criteria.

Table 5-3
Summary of Groundwater Analytical Testing Results
PFC Release Determination
Site Investigation Report, Former Myrtle Beach Air Force Base, South Carolina

				Analyte:	Perfluorobutanesulfonic acid (PFBS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanesulfonic acid (PFHxS)	Perfluorononanoic acid (PFNA)	Perfluorooctanesulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)
				Project Action Limit:	NA	NA	NA	NA	0.2	0.4
Location	**Sample ID**	**Sample Date**	**Sample Depth (ft.)**	**Sample Type**	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
FT016P-01-GW	MYRTL-GW-001	23-Jul-15	22.0-32.0	N	0.792	0.744	11.9	0.182 J	**31.5**	**1.79**
FT016P-02-GW	MYRTL-GW-002	24-Jul-15	7.0-17.0	N	32.1	57.7	740	10 U	**2490**	**150**
FT016P-03-GW	MYRTL-GW-003	23-Jul-15	8.0-18.0	N	9.09	13.2	154	1.01 J	**772**	**20.5**
FT016P-04-GW	MYRTL-GW-004	23-Jul-15	8.0-18.0	FD	0.271	0.995	5.1	0.142	**15.6**	**0.905**
	MYRTL-GW-005	23-Jul-15	8.0-18.0	N	0.26	0.928	5.11	0.11	**13.1**	**0.809**
FT016P-05-GW	MYRTL-GW-006	23-Jul-15	7.0-17.0	N	2.46	7.97	54.5	1.3	**153**	**10**
FT016P-06-GW	MYRTL-GW-007	24-Jul-15	4.0-14.0	N	0.137	0.235	2.16	0.0712	**14.9**	0.288
ST49MW02	MYRTL-GW-008	23-Jul-15	6.5-16.5	N	0.179	0.173	3.8	0.0477	**7.25 B**	0.254 B

Notes:
Purple Shaded = Exceeds Project Action Limit
B = The analyte was found in an associated blank, as well as in the sample.
FD = Field Duplicate Sample
ft = Feet
ID = Identification
J = The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
N = Normal Field Sample
NA = Not applicable
U = The analyte was analyzed for, but was not detected above the reported limit of detection (LOD).
µg/L = micrograms per liter

Project Action Limit = USEPA Office of Water, 2009, Provisional Health Advisories (PHAs) for drinking water.

Table 5-4
Summary of Well 1 Analytical Testing Results
PFC Release Determination
Site Investigation Report, Former Myrtle Beach Air Force Base, South Carolina

				Analyte:	Perfluorobutanesulfonic acid (PFBS)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanesulfonic acid (PFHxS)	Perfluorononanoic acid (PFNA)	Perfluorooctanesulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)
				Project Action Limit:	NA	NA	NA	NA	0.2	0.4
Location	**Sample ID**	**Sample Date**	**Sample Depth (ft.)**	**Sample Type**	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
WELL_1	WELL 1	23-Nov-15	0.0-0.0	N	0.015 U	0.015 U	0.015 UJ	0.015 U	0.0096 U	0.031 U

Notes:
Purple Shaded = Exceeds Project Action Limit
FD = Field Duplicate Sample
ft = Feet
ID = Identification
N = Normal Field Sample
NA = Not applicable
U = Non-detect at reporting limit shown.
UJ = The reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
µg/L = micrograms per liter

Project Action Limit = USEPA Office of Water, 2009, Provisional Health Advisories (PHAs) for drinking water.

Table 6-1
Conceptual Site Model Summary – Fire Training Area (FT016P)
PFC Release Determination
Site Investigation Report, Former Myrtle Beach Air Force Base

Facility Profile	Physical Profile	Release Profile	Land Use and Exposure Profile	Ecological Profile
Installation Description: • Installation ~ 3800 acres. • Located within the city of Myrtle Beach, South Carolina, between the Intracoastal Waterway and the Atlantic Ocean. • Base was established in 1940 to train troops during WWII and was deactivated in 1947. • The Base was reactivated in 1954 and was later designated the 354th Tactical Fighter Wing. • The Base officially closed on March 31, 1993 **FT016P History:** • The FTA was used from 1970 – 1992. • FTA consisted of a 100' diameter, sandy, earthen, diked burn pit approximately one half mile east of main runway. • Drains led to OWS • OWS drained to polishing pond, then to drainage canals and ultimately the Atlantic Ocean. • Fire training exercises were conducted approximately twice every three months. • The quantity of propellants/extinguishers used is unknown. • The area to the east of the FTA is now used as a car rental facility; however, it does not appear that significant re-grading occurred in the area immediately around the FTA.	**Installation Characteristics:** • Approximately 3800 acres **Topography:** • The installation is relatively flat. • FT016P is also flat. **Vegetation:** • FT016P is primarily grassy vegetation, with asphalt surfaces (roads and parking areas) surrounding it. **Surface Water:** • Historically the site drained to a system of canals that conveyed surface runoff to the Atlantic Ocean approximately one mile downstream. • There is currently a detention pond downstream of FT016P that receives runoff from the rental car facilities. This detention pond was installed after fire training activities ceased. **Soils:** • Soils beneath FT016P consist of predominantly sand with a few discontinuous silt and clay layers. **Geology:** • The sediment present at FT016P is typical of barrier environments and is interpreted as part of the Quaternary Age Socastee Formation (comprised primarily of sands and clay). • Bedrock is not anticipated to be encountered during these operations at FT016P. • Several thin clayey layers are recognized in the upper 10 feet of the subsurface. **Hydrogeology:** • Groundwater elevations have been gauged between 7 and 12 feet below ground surface (bgs) over the past 15 years. • Groundwater flow is to the west at an average hydraulic gradient of approximately 0.003. • The average hydraulic conductivity (K) across the site was calculated to be 3.40×10^{-3}cm/s. (Shaw, 2003) **Meteorology:** • Average Annual Rainfall = ~50 inches	**Contaminants of Potential Concern:** • PFCs are the contaminants of potential concern (COPCs) for this investigation; however, fuel related compounds used as propellants in fire training exercises were confirmed in groundwater samples and were last analyzed in 2005 at concentrations below selected cleanup goals. • PFC COPCs include the following: o Perfluorooctanoic Acid (PFOA), o Perfluorooctanesulfonic Acid (PFOS), o Perfluorohexanesulfonic acid (PFHXS), o Perfluoroheptanoic acid (PFHPA), o Perfluorononanoic acid (PFNA), and o Perfluorobutanesulfonic acid (PFBS). **Media of Potential Concern:** • Soil, groundwater and sediment. **Confirmed AFFF Releases:** • PFCs appear to have been released to the ground and are present in soil, sediment, and shallow groundwater at FT016P. • PFCs remain in the FT016P source area. PFCs were detected in each of the soil samples, and PFOS was detected in one soil sample in excess of the PAL. The PALs were exceeded for PFOS and PFOA in five of the seven wells sampled. The remaining two wells exceeded the PAL for PFOS only with detections of PFOA below the PAL. • AFFF was historically noted in drainage canals and on the beach due to AFFF fire suppression systems in Hangars 358 and 359. • As a result of these releases to the beach from the hangars, a sluice gate was installed in the canal leading to the beach to control the release of foam. PFOS was detected below the PAL in the sediment sample collected upgradient of the sluice gate. **Primary Releases:** • Infiltration into groundwater beneath the FTA site itself through unconsolidated overburden • Mobilization of contaminants through groundwater in down gradient direction, (west) due to high hydraulic conductivity of the overburden material. • Adsorption to soil particles close to the source. • Direct discharge of PFCs conveyed through the drainage canal from FT016P. • Adsorption to sediments and soils beneath the canal • Infiltration into groundwater from water within the unlined canals	**Current Landowners:** • This portion of the former MBAFB is now the Myrtle Beach International Airport. • The airport is owned by Horry County, SC. **Current Land Use:** • Currently the Myrtle Beach International Airport and related airfield facilities occupy the majority of the former base. • A portion of the former base has been transferred to the City for recreational use, to the Horry-Georgetown Technical College, to the Market Common shopping and housing complex, and to other housing developers. **Future Land Use:** • Land use is not expected to change significantly in the future near FT016P. • The potential for commercial development exists south of the airfield along Highway 17 Business. • Expanded housing development and commercial support activities are proposed on the west side of the former Air Force Base. • Commercial and industrial aerospace related activities are proposed directly adjacent to the west side of the airfield. **Potential Receptors:** • Potential receptors associated with current and future land use include onsite workers and biota.	**Potential Ecological Receptors:** • Inland and marine plant species, fish, birds, insects, soil invertebrates, and mammals that inhabit or migrate through the site. Associated threatened and endangered species are included. **Threatened and Endangered Species:** Birds • Bald Eagle • Kirtland's Warbler • Red-cockaded woodpecker • Wood Stork • Piping Plover • Red Knot Flowering Plants • Pondberry • Canby's Dropwort • American Chaffseed • Seabeach Amaranth Mammals • West Indian Manatee Reptiles • Hawksbill Sea Turtle • Leatherback Sea Turtle • Kemp's Ridley Sea Turtle • Green Sea Turtle • Loggerhead Sea Turtle

APPENDIX A

Photographic Log

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PHOTO 1:

Soil Boring



PHOTO 2:

Drilling monitoring well
MYRTL-FT016P-01

PHOTO 3:

Monitoring well installation





PHOTO 4:

Monitoring well MYRTL-FT016P-03 installation



PHOTO 5:

Monitoring well MYRTL-FT016P-01 development



PHOTO 6:

Completed monitoring well MYRTL-FT016P-05



PHOTO 7:

Groundwater sampling



PHOTO 8:

Sluice gate and sediment sample MYRTL-FT016P-08 location, facing southeast



PHOTO 9:

Well #1 pump house, facing east



PHOTO 10:

Well #1 sample location

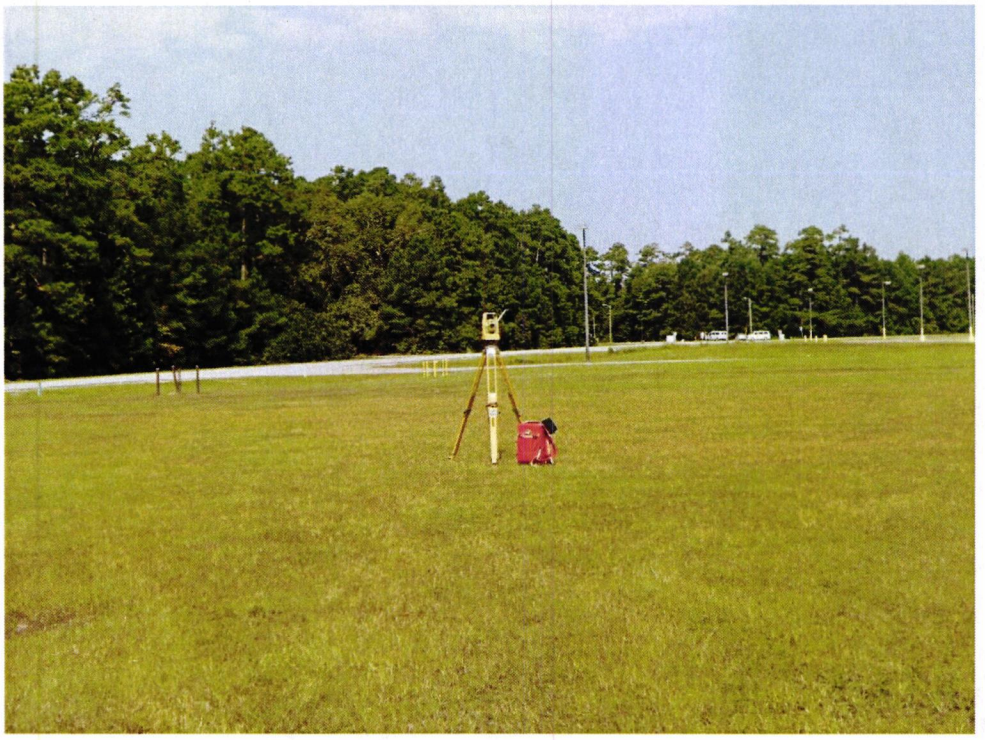


PHOTO 11:

Topographic survey

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APPENDIX B

Field Forms

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APPENDIX B-1

Daily Health and Safety Tailgate Form

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AMEC Environment and Infrastructure
Tailgate Safety Meeting Report

Check One:

☑ Initial Kickoff Safety Meeting ☐ Regular/Daily Tailgate Safety Meeting ☐ Unscheduled Tailgate Safety Meeting

Date: 6 Jul 15 Site: Fmr. Myrtle Beach AFB, FT016P

Field Manager: Andrew Smits (print) Site Health and Safety Coordinator: Andrew Smits (print)

Order of Business

Topics Discussed (check all that apply): Meet w/ base contact at FT016P

- ☐ Site History/Site Layout
- ☐ Scope of Work
- ☑ Personnel Responsibilities
- ☐ Medical Surveillance Requirements
- ☐ Training Requirements
- ☑ Safe Work Practices
- ☐ Logs, Reports, Recordkeeping
- ☐ Sanitation and Illumination
- ☐ Air Surveillance Type and Frequency
- ☐ Monitoring Instruments and Personal Monitoring
- ☐ Action Levels
- ☐ Accident Reporting Procedures
- ☐ Site Control (visitor access, buddy system, work zones, security, communications)
- ☐ Discussion of previous "near misses" including work crew suggestions to correct work practices to avoid similar occurrences
- ☐ Engineering Controls
- ☑ PPE Required/PPE Used
- ☑ Define PPE Levels, Donning, Doffing Procedures
- ☑ Physical Hazards and Controls (e.g., overhead utility lines)
- ☐ Decontamination Procedures for Personnel and Equipment
- ☑ General Emergency Procedures (e.g., locations of air horns and what 1 or 2 blasts indicate)
- ☑ Site/Regional Emergency Procedures (e.g., earthquake response, typhoon response, etc.)
- ☑ Medical Emergency Response Procedures (e.g., exposure control precautions, location of first aid kit, etc.)
- ☐ Hazardous Materials Spill Procedures
- ☐ Applicable SOPs (e.g., Hearing Conservation Program, Safe Driving, etc.)
- ☐ Injury/Illness Reporting Procedures
- ☐ Route to Hospital and Medical Care Provider Visit Guidelines
- ☐ Hazard Analysis of Work Tasks (chemical, physical, biological and energy health hazards and effects)

Initial site inspection/recon.
No sampling or other intrusive activities to take place today

Safety suggestions by site workers: N/A AS Level D PPE to be worn while at FT016P site.

Action taken on previous suggestions: N/A

Injuries/accidents/personnel changes since previous meeting: N/A

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report *(continued)*

Observations of unsafe work practices/conditions that have developed since previous meeting: N/A

Location of (or changes in the locations of) evacuation routes/safe refuge areas: N/A

Additional comments: H+S review performed prior to on-site meeting w/ base contact. Activities to consist of recon. of site, establish locations for soil borings No intrusive activities

Attendee signatures below indicate acknowledgment of the information and willingness to abide by the procedures discussed during this safety meeting.

Name (print)	Company	Signature
Andrew Smits	Amec Foster Wheeler	

6 Jul 15

Meeting conducted by: Andrew Smits (print) Title: Field Mgr

Signature: Time: 0900

6 Jul 15 P. 2/2

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report

amec

Check One:

☑ Initial Kickoff Safety Meeting ☐ Regular/Daily Tailgate Safety Meeting ☐ Unscheduled Tailgate Safety Meeting

Date: 7 July 2015 Site: Fmr. Myrtle Beach AFB, FT016P
① 8 July 2015

Field Manager: Andrew Smits (print) Site Health and Safety Coordinator: Andrew Smith (print)

Order of Business

Topics Discussed (check all that apply):

- ☑ Site History/Site Layout
- ☑ Scope of Work
- ☑ Personnel Responsibilities
- ☑ Medical Surveillance Requirements
- ☑ Training Requirements
- ☑ Safe Work Practices
- ☑ Logs, Reports, Recordkeeping
- ☑ Sanitation and Illumination
- ☑ Air Surveillance Type and Frequency
- ☑ Monitoring Instruments and Personal Monitoring
- ☑ Action Levels – PFCs (unk); historical Petrol. compounds + VOCs
- ☑ Accident Reporting Procedures
- ☑ Site Control (visitor access, buddy system, work zones, security, communications)
- ☑ Discussion of previous "near misses" including work crew suggestions to correct work practices to avoid similar occurrences
- ☑ Engineering Controls
- ☑ PPE Required/PPE Used
- ☑ Define PPE Levels, Donning, Doffing Procedures
- ☑ Physical Hazards and Controls (e.g., overhead utility lines)
- ☑ Decontamination Procedures for Personnel and Equipment
- ☑ General Emergency Procedures (e.g., locations of air horns and what 1 or 2 blasts indicate) 3 blasts on car horn = emergency
- ☑ Site/Regional Emergency Procedures (e.g., earthquake response, typhoon response, etc.) Rally point is taxi stand area on exit road + terminal.
- ☑ Medical Emergency Response Procedures (e.g., exposure control precautions, location of first aid kit, etc.)
- ☑ Hazardous Materials Spill Procedures
- ☑ Applicable SOPs (e.g., Hearing Conservation Program, Safe Driving, etc.)
- ☑ Injury/Illness Reporting Procedures
- ☑ Route to Hospital and Medical Care Provider Visit Guidelines
- ☑ Hazard Analysis of Work Tasks (chemical, physical, biological and energy health hazards and effects)

Safety suggestions by site workers: N/A - initial briefing

② N/A - AS Avoid walking + talking while using cell phone

Action taken on previous suggestions: N/A - initial briefing

① Remain stationary while talking - sit in car, sit on chair/bucket, Put hand on object

Injuries/accidents/personnel changes since previous meeting: N/A - initial briefing

① Initial Site Entry Briefing held for John Goff on 8 Jul 2015

Fmr Myrtle Beach AFB
FT016P

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report *(continued)*

amec

Observations of unsafe work practices/conditions that have developed since previous meeting: N/A - initial briefing

Location of (or changes in the locations of) evacuation routes/safe refuge areas: N/A - initial briefing

Additional comments: High speed vehicle traffic on adjacent roads; Reviewed PFC protocols; Heat stress precautions and engineering controls to provide cool space for taking breaks, Encourage frequent hydration breaks as needed. Food consumption off-site only.

Attendee signatures below indicate acknowledgment of the information and willingness to abide by the procedures discussed during this safety meeting.

	Name (print)	Company	Signature
	Jeremy Bennett	AMEC Foster Wheeler	
	Randy Hoffman	SAEDACCO	
	Mark Dellesford	SAEDACCO	
①	John Goff	SAEDACCO	

7 Jul 2015

Meeting conducted by: Andrew Smits *(print)*

Signature:

Title: Field Mgr / SHS Coord.

Date/ Time: 0730 - 0815, 7 July 2015

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report

amec

Check One:

☐ Initial Kickoff Safety Meeting ☑ Regular/Daily Tailgate Safety Meeting ☐ Unscheduled Tailgate Safety Meeting

Date: 8 July 2015 Site: Fmr. Myrtle Beach AFB, FT016P

Field Manager: Andrew Smits *(print)* Site Health and Safety Coordinator: Andrew Smits *(print)*

Order of Business

Topics Discussed (check all that apply):

- ☐ Site History/Site Layout
- ☐ Scope of Work
- ☐ Personnel Responsibilities
- ☐ Medical Surveillance Requirements
- ☐ Training Requirements
- ☐ Safe Work Practices
- ☐ Logs, Reports, Recordkeeping
- ☐ Sanitation and Illumination
- ☐ Air Surveillance Type and Frequency
- ☑ Monitoring Instruments and Personal Monitoring use of PID, proximity to adjacent AOC
- ☐ Action Levels
- ☐ Accident Reporting Procedures
- ☐ Site Control (visitor access, buddy system, work zones, security, communications)
- ☐ Discussion of previous "near misses" including work crew suggestions to correct work practices to avoid similar occurrences
- ☐ Engineering Controls
- ☑ PPE Required/PPE Used - proper eye protection
- ☐ Define PPE Levels, Donning, Doffing Procedures
- ☐ Physical Hazards and Controls (e.g., overhead utility lines)
- ☐ Decontamination Procedures for Personnel and Equipment
- ☐ General Emergency Procedures (e.g., locations of air horns and what 1 or 2 blasts indicate)
- ☐ Site/Regional Emergency Procedures (e.g., earthquake response, typhoon response, etc.)
- ☐ Medical Emergency Response Procedures (e.g., exposure control precautions, location of first aid kit, etc.)
- ☐ Hazardous Materials Spill Procedures
- ☑ Applicable SOPs (e.g., Hearing Conservation Program, Safe Driving, etc.)
- ☐ Injury/Illness Reporting Procedures
- ☐ Route to Hospital and Medical Care Provider Visit Guidelines
- ☑ Hazard Analysis of Work Tasks (chemical, physical, biological and energy health hazards and effects) consider all ants to be fire ants

Safety suggestions by site workers: (NONE)

Action taken on previous suggestions: N/A - NONE reported during previous briefing

Injuries/accidents/personnel changes since previous meeting: One (1) new crew member from SAEDACCO. His H+S certs are to be delivered later today. Will review to accept his credentials after completion of soil boring - SI

Fmr Myrtle Beach AFB
FT016P

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report *(continued)*

amec

Observations of unsafe work practices/conditions that have developed since previous meeting: (none)

Location of (or changes in the locations of) evacuation routes/safe refuge areas: (NONE)

Additional comments: Be aware of traffic on road. will use cones and barrier tape to cordon off the work area and enhance visibility

Attendee signatures below indicate acknowledgment of the information and willingness to abide by the procedures discussed during this safety meeting.

Name (print)	Company	Signature
Mark Deatherage	SAE/ACCO	
Randy Hoffman	SAE/ACCO	
Jeremy Bennett	AMEC Foster Wheeler	

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report

amec

Check One:

☐ Initial Kickoff Safety Meeting ☑ Regular/Daily Tailgate Safety Meeting ☐ Unscheduled Tailgate Safety Meeting

Date: 9 July 2015 Site: Fmr. Myrtle Beach AFB, FT016P

Field Manager: Andrew Smits *(print)* Site Health and Safety Coordinator: Andrew Smits *(print)*

Order of Business

Topics Discussed (check all that apply):

- ☐ Site History/Site Layout
- ☐ Scope of Work
- ☐ Personnel Responsibilities
- ☐ Medical Surveillance Requirements
- ☐ Training Requirements
- ☑ Safe Work Practices
- ☐ Logs, Reports, Recordkeeping
- ☐ Sanitation and Illumination
- ☐ Air Surveillance Type and Frequency
- ☐ Monitoring Instruments and Personal Monitoring
- ☐ Action Levels
- ☐ Accident Reporting Procedures
- ☐ Site Control (visitor access, buddy system, work zones, security, communications)
- ☐ Discussion of previous "near misses" including work crew suggestions to correct work practices to avoid similar occurrences
- ☑ Engineering Controls - cutting/fluid containment at borehole
- ☐ PPE Required/PPE Used
- ☑ Define PPE Levels, Donning, Doffing Procedures - freq. glove changes
- ☐ Physical Hazards and Controls (e.g., overhead utility lines)
- ☐ Decontamination Procedures for Personnel and Equipment
- ☐ General Emergency Procedures (e.g., locations of air horns and what 1 or 2 blasts indicate)
- ☑ Site/Regional Emergency Procedures (e.g., earthquake response, typhoon response, etc.) T-storm procedure
- ☐ Medical Emergency Response Procedures (e.g., exposure control precautions, location of first aid kit, etc.)
- ☐ Hazardous Materials Spill Procedures
- ☐ Applicable SOPs (e.g., Hearing Conservation Program, Safe Driving, etc.)
- ☐ Injury/Illness Reporting Procedures
- ☐ Route to Hospital and Medical Care Provider Visit Guidelines
- ☐ Hazard Analysis of Work Tasks (chemical, physical, biological and energy health hazards and effects)

Safety suggestions by site workers: use of walkboards to provide a more secure footing for workers at top of borehole, Esp. for boring which penetrate saturated zone and generate sign. cuttings + water

Action taken on previous suggestions: plywood placed on top of plastic sheeting to help contain cuttings and water/sludge during drilling plastic is bermed w/ (bagged) sand to contain runoff

Injuries/accidents/personnel changes since previous meeting: (NONE)

Fmr Myrtle Beach AFB
FT016P

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report *(continued)*

amec

Observations of unsafe work practices/conditions that have developed since previous meeting: (NONE)

Location of (or changes in the locations of) evacuation routes/safe refuge areas: in event of T-storm, one long loud horn blast will indicate stop work, seek shelter in vehicles.

Additional comments: workers need to be more diligent about 1. changing gloves frequently, 2. containerizing water as IDW to the extent practicable

Attendee signatures below indicate acknowledgment of the information and willingness to abide by the procedures discussed during this safety meeting.

Name (print)	Company	Signature
Randy Hoffman	SAEDACCO	
Mark Dawkins	SAEDACCO	
John Goff	SAEDACCO	
Jeremy Bennett	AMEC Foster Wheeler	

9 July 15

Meeting conducted by: Andrew Smits (print)

Signature:

Title: Field Manager / H+S Coord.

Date/ Time: 9 July 2015 0715

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report

Check One:

☐ Initial Kickoff Safety Meeting ☑ Regular/Daily Tailgate Safety Meeting ☐ Unscheduled Tailgate Safety Meeting

Date: 10 July 2015 Site: Fmr. Myrtle Beach AFB, FT016P

Field Manager: Andrew Smits *(print)* Site Health and Safety Coordinator: Andrew Smits *(print)*

Order of Business

Topics Discussed (check all that apply):

- ☐ Site History/Site Layout
- ☐ Scope of Work
- ☐ Personnel Responsibilities
- ☐ Medical Surveillance Requirements
- ☐ Training Requirements
- ☐ Safe Work Practices
- ☐ Logs, Reports, Recordkeeping
- ☑ Sanitation and Illumination – Trash + debris Police area often to prevent offsite
- ☐ Air Surveillance Type and Frequency
- ☐ Monitoring Instruments and Personal Monitoring
- ☐ Action Levels
- ☐ Accident Reporting Procedures
- ☐ Site Control (visitor access, buddy system, work zones, security, communications)
- ☑ Discussion of previous "near misses" including work crew suggestions to correct work practices to avoid similar occurrences – work area surrounding augers and mast become crowded at times.
- ☐ Engineering Controls
- ☐ PPE Required/PPE Used - foot care/prevention
- ☐ Define PPE Levels, Donning, Doffing Procedures
- ☐ Physical Hazards and Controls (e.g., overhead utility lines)
- ☐ Decontamination Procedures for Personnel and Equipment
- ☐ General Emergency Procedures (e.g., locations of air horns and what 1 or 2 blasts indicate)
- ☐ Site/Regional Emergency Procedures (e.g., earthquake response, typhoon response, etc.)
- ☐ Medical Emergency Response Procedures (e.g., exposure control precautions, location of first aid kit, etc.)
- ☐ Hazardous Materials Spill Procedures
- ☐ Applicable SOPs (e.g., Hearing Conservation Program, Safe Driving, etc.)
- ☐ Injury/Illness Reporting Procedures
- ☐ Route to Hospital and Medical Care Provider Visit Guidelines
- ☐ Hazard Analysis of Work Tasks (chemical, physical, biological and energy health hazards and effects)

Safety suggestions by site workers: (NONE)

Action taken on previous suggestions: (NONE NEEDED)

Injuries/accidents/personnel changes since previous meeting: (NONE)

Fmr Myrtle Beach AFB
FT016P

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report *(continued)*

amec

Observations of unsafe work practices/conditions that have developed since previous meeting: Crowded areas surrounding augers and rig mast can create hazardous condition when using snatch block to move auger flights

Location of (or changes in the locations of) evacuation routes/safe refuge areas: (NONE)

Additional comments: Last day of shift can create false sense of urgency and need to cut corners - stay safe up to the end of shift. Be aware of potential FOD sources and exercise diligent housekeeping practices.

Attendee signatures below indicate acknowledgment of the information and willingness to abide by the procedures discussed during this safety meeting.

Name (print)	Company	Signature
Randy Holloman	SAEDHCCO	
Mark Bonsteel	SAEDHCCO	
Jeremy Bennett	AMEC Foster Wheeler	

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report

amec

Check One:

☐ Initial Kickoff Safety Meeting ☑ Regular/Daily Tailgate Safety Meeting ☐ Unscheduled Tailgate Safety Meeting

Date: 13 July 2015 Site: Fmr. Myrtle Beach AFB, FT016P

Field Manager: Andrew Smits *(print)* Site Health and Safety Coordinator: Andrew Smits *(print)*

Order of Business

Topics Discussed (check all that apply):

- ☐ Site History/Site Layout
- ☐ Scope of Work
- ☐ Personnel Responsibilities
- ☐ Medical Surveillance Requirements
- ☐ Training Requirements
- ☐ Safe Work Practices – avoid contact w/ grout incl. dust during mixing
- ☐ Logs, Reports, Recordkeeping
- ☐ Sanitation and Illumination
- ☐ Air Surveillance Type and Frequency – PID monit. during drilling
- ☐ Monitoring Instruments and Personal Monitoring
- ☐ Action Levels
- ☐ Accident Reporting Procedures
- ☐ Site Control (visitor access, buddy system, work zones, security, communications)
- ☐ Discussion of previous "near misses" including work crew suggestions to correct work practices to avoid similar occurrences
- ☐ Engineering Controls
- ☐ PPE Required/PPE Used 1. All Cotton gloves OK 2. latex gloves used when mixing grout
- ☐ Define PPE Levels, Donning, Doffing Procedures
- ☐ Physical Hazards and Controls (e.g., overhead utility lines)
- ☐ Decontamination Procedures for Personnel and Equipment
- ☐ General Emergency Procedures (e.g., locations of air horns and what 1 or 2 blasts indicate)
- ☐ Site/Regional Emergency Procedures (e.g., earthquake response, typhoon response, etc.)
- ☐ Medical Emergency Response Procedures (e.g., exposure control precautions, location of first aid kit, etc.)
- ☐ Hazardous Materials Spill Procedures
- ☐ Applicable SOPs (e.g., Hearing Conservation Program, Safe Driving, etc.)
- ☐ Injury/Illness Reporting Procedures
- ☐ Route to Hospital and Medical Care Provider Visit Guidelines
- ☐ Hazard Analysis of Work Tasks (chemical, physical, biological and energy health hazards and effects)

Safety suggestions by site workers: (NONE)

Action taken on previous suggestions: (NONE)

Injuries/accidents/personnel changes since previous meeting: (NONE)

Fmr Myrtle Beach AFB
FT016P

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report *(continued)*

Observations of unsafe work practices/conditions that have developed since previous meeting: (NONE)

Location of (or changes in the locations of) evacuation routes/safe refuge areas: (NONE)

Additional comments: very high humidity today will create high heat index
Frequent water breaks will be implemented.

Attendee signatures below indicate acknowledgment of the information and willingness to abide by the procedures discussed during this safety meeting.

Name (print)	Company	Signature
Randy Hoffman	SAED ACCO	
John Goff	SAED ACCO	
[illegible]	SAED ACCO	
		13 Jul 15

Meeting conducted by: Andrew Smits (print) Title: H+S Coord.

Signature: [signature] Date/Time: 1015 13 Jul 15

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report

Check One:

☐ Initial Kickoff Safety Meeting ☑ Regular/Daily Tailgate Safety Meeting ☐ Unscheduled Tailgate Safety Meeting

Date: 14 July 2015 Site: Fmr. Myrtle Beach AFB, FT816P

Field Manager: Andrew Smits *(print)* Site Health and Safety Coordinator: Andrew Smits *(print)*

Order of Business

Topics Discussed (check all that apply):

- ☐ Site History/Site Layout
- ☐ Scope of Work
- ☐ Personnel Responsibilities
- ☐ Medical Surveillance Requirements
- ☐ Training Requirements
- ☑ Safe Work Practices
- ☐ Logs, Reports, Recordkeeping
- ☐ Sanitation and Illumination
- ☐ Air Surveillance Type and Frequency
- ☐ Monitoring Instruments and Personal Monitoring
- ☐ Action Levels
- ☐ Accident Reporting Procedures
- ☐ Site Control (visitor access, buddy system, work zones, security, communications)
- ☐ Discussion of previous "near misses" including work crew suggestions to correct work practices to avoid similar occurrences
- ☐ Engineering Controls
- ☐ PPE Required/PPE Used
- ☐ Define PPE Levels, Donning, Doffing Procedures
- ☐ Physical Hazards and Controls (e.g., overhead utility lines)
- ☐ Decontamination Procedures for Personnel and Equipment
- ☑ General Emergency Procedures (e.g., locations of air horns and what 1 or 2 blasts indicate) Lightning alert
- ☑ Site/Regional Emergency Procedures (e.g., earthquake response, typhoon response, etc.) Lightning/T-storms
- ☐ Medical Emergency Response Procedures (e.g., exposure control precautions, location of first aid kit, etc.)
- ☐ Hazardous Materials Spill Procedures
- ☐ Applicable SOPs (e.g., Hearing Conservation Program, Safe Driving, etc.)
- ☐ Injury/Illness Reporting Procedures
- ☐ Route to Hospital and Medical Care Provider Visit Guidelines
- ☐ Hazard Analysis of Work Tasks (chemical, physical, biological and energy health hazards and effects)

Safety suggestions by site workers: (NONE)

Action taken on previous suggestions: (NONE)

Injuries/accidents/personnel changes since previous meeting: (NONE)

Fmr Myrtle Beach AFB
FT016P

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report *(continued)*

amec

Observations of unsafe work practices/conditions that have developed since previous meeting: (NONE)

Location of (or changes in the locations of) evacuation routes/safe refuge areas: seek shelter in vehicles if lightning threatens.

Additional comments: Nearing completion of this phase; do not compromise safety for production.

Attendee signatures below indicate acknowledgment of the information and willingness to abide by the procedures discussed during this safety meeting.

Name (print)	Company	Signature
John Goff	SAEDACCO	
Randy Hoffman	SAEDACCO	
Mitch Dziekiewicz	SAEDACCO	

Meeting conducted by: Andrew Smits (print) Title: HTS Coord.

Signature: Date/Time: 0720, 14 Jul 15

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report

amec

Check One:

☐ Initial Kickoff Safety Meeting ☑ Regular/Daily Tailgate Safety Meeting ☐ Unscheduled Tailgate Safety Meeting

Date: 15 Jul 15 Site: Fmr. Myrtle Beach AFB, FT016P

Field Manager: Andrew Smits *(print)* Site Health and Safety Coordinator: Andrew Smits *(print)*

Order of Business

Topics Discussed (check all that apply):

- ☐ Site History/Site Layout
- ☐ Scope of Work
- ☐ Personnel Responsibilities
- ☐ Medical Surveillance Requirements
- ☐ Training Requirements
- ☑ Safe Work Practices - 2-man lift; be aware of skid-steer
- ☐ Logs, Reports, Recordkeeping
- ☐ Sanitation and Illumination
- ☐ Air Surveillance Type and Frequency
- ☑ Monitoring Instruments and Personal Monitoring OVA/PID during drilling
- ☐ Action Levels
- ☐ Accident Reporting Procedures
- ☐ Site Control (visitor access, buddy system, work zones, security, communications)
- ☐ Discussion of previous "near misses" including work crew suggestions to correct work practices to avoid similar occurrences
- ☐ Engineering Controls
- ☐ PPE Required/PPE Used
- ☐ Define PPE Levels, Donning, Doffing Procedures
- ☐ Physical Hazards and Controls (e.g., overhead utility lines)
- ☐ Decontamination Procedures for Personnel and Equipment
- ☐ General Emergency Procedures (e.g., locations of air horns and what 1 or 2 blasts indicate)
- ☐ Site/Regional Emergency Procedures (e.g., earthquake response, typhoon response, etc.)
- ☐ Medical Emergency Response Procedures (e.g., exposure control precautions, location of first aid kit, etc.)
- ☐ Hazardous Materials Spill Procedures
- ☐ Applicable SOPs (e.g., Hearing Conservation Program, Safe Driving, etc.)
- ☐ Injury/Illness Reporting Procedures
- ☐ Route to Hospital and Medical Care Provider Visit Guidelines
- ☐ Hazard Analysis of Work Tasks (chemical, physical, biological and energy health hazards and effects)

Safety suggestions by site workers: (NONE)

Action taken on previous suggestions: (NONE)

Injuries/accidents/personnel changes since previous meeting: (NONE)

Fmr Myrtle Beach AFB
FTØ16P

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report *(continued)*

Observations of unsafe work practices/conditions that have developed since previous meeting: (NONE)

Location of (or changes in the locations of) evacuation routes/safe refuge areas: (NONE)

Additional comments: Be aware of activities by the skid-steer. 2-man lift for items >50lbs.
PID will be used to monitor bz during drilling at loc ØZ

Attendee signatures below indicate acknowledgment of the information and willingness to abide by the procedures discussed during this safety meeting.

Name (print)	Company	Signature
Randy Hoffman	SAEDACCO	
Mark Dalsford	SAEDACCO	
John Goff	SAEDACCO	

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report

amec

Check One:

☐ Initial Kickoff Safety Meeting ☑ Regular/Daily Tailgate Safety Meeting ☐ Unscheduled Tailgate Safety Meeting

Date: ~~15 Jul 15~~ 16 Jul 15 AS Site: Fmr. Myrtle Beach AFB, FT016P

Field Manager: Andrew Smits *(print)* Site Health and Safety Coordinator: Andrew Smits *(print)*

Order of Business

Topics Discussed (check all that apply):

- ☐ Site History/Site Layout
- ☐ Scope of Work
- ☐ Personnel Responsibilities
- ☐ Medical Surveillance Requirements
- ☐ Training Requirements
- ☑ Safe Work Practices
- ☐ Logs, Reports, Recordkeeping
- ☐ Sanitation and Illumination
- ☐ Air Surveillance Type and Frequency
- ☐ Monitoring Instruments and Personal Monitoring
- ☐ Action Levels
- ☐ Accident Reporting Procedures
- ☐ Site Control (visitor access, buddy system, work zones, security, communications)
- ☐ Discussion of previous "near misses" including work crew suggestions to correct work practices to avoid similar occurrences
- ☐ Engineering Controls
- ☐ PPE Required/PPE Used
- ☐ Define PPE Levels, Donning, Doffing Procedures
- ☐ Physical Hazards and Controls (e.g., overhead utility lines)
- ☐ Decontamination Procedures for Personnel and Equipment
- ☐ General Emergency Procedures (e.g., locations of air horns and what 1 or 2 blasts indicate)
- ☐ Site/Regional Emergency Procedures (e.g., earthquake response, typhoon response, etc.)
- ☐ Medical Emergency Response Procedures (e.g., exposure control precautions, location of first aid kit, etc.)
- ☐ Hazardous Materials Spill Procedures
- ☐ Applicable SOPs (e.g., Hearing Conservation Program, Safe Driving, etc.)
- ☐ Injury/Illness Reporting Procedures
- ☐ Route to Hospital and Medical Care Provider Visit Guidelines
- ☑ Hazard Analysis of Work Tasks (chemical, physical, biological and energy health hazards and effects)

Safety suggestions by site workers: Cell phone on-person during on-site activities. Activities will involve minimal contact w/ potentially contaminated media.

Action taken on previous suggestions: (NONE)

Injuries/accidents/personnel changes since previous meeting: (NONE)

Fmr Myrtle Beach AFB
FT016P

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report *(continued)*

amec

Observations of unsafe work practices/conditions that have developed since previous meeting: (NONE)

Location of (or changes in the locations of) evacuation routes/safe refuge areas: (NONE)

Additional comments: -be aware of potential biological hazards - insects inhabiting well protective casings; biological hazards and trip/slip hazards at well ~~AS~~ ST 49-MW02

Attendee signatures below indicate acknowledgment of the information and willingness to abide by the procedures discussed during this safety meeting.

Name (print)	Company	Signature
Andrew Smith	Amec FW	

16 Jul 2015

Meeting conducted by: Andrew Smith (print) Title: H+S Coord.

Signature: Date/Time: 0810 16 Jul 2015

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report

Check One:

☑ Initial Kickoff Safety Meeting ☐ Regular/Daily Tailgate Safety Meeting ☐ Unscheduled Tailgate Safety Meeting

Date: 21 Jul 2015 Site: Fmr. Myrtle Beach AFB, FT016P

Field Manager: _____ *(print)* Site Health and Safety Coordinator: _____ *(print)*

Order of Business

Topics Discussed (check all that apply):

- ☑ Site History/Site Layout
- ☑ Scope of Work
- ☑ Personnel Responsibilities
- ☑ Medical Surveillance Requirements
- ☑ Training Requirements
- ☑ Safe Work Practices
- ☑ Logs, Reports, Recordkeeping
- ☑ Sanitation and Illumination
- ☐ Air Surveillance Type and Frequency N/A
- ☐ Monitoring Instruments and Personal Monitoring N/A
- ☑ Action Levels
- ☑ Accident Reporting Procedures
- ☑ Site Control (visitor access, buddy system, work zones, security, communications)
- ☑ Discussion of previous "near misses" including work crew suggestions to correct work practices to avoid similar occurrences
- ☑ Engineering Controls
- ☑ PPE Required/PPE Used
- ☑ Define PPE Levels, Donning, Doffing Procedures
- ☑ Physical Hazards and Controls (e.g., overhead utility lines)
- ☑ Decontamination Procedures for Personnel and Equipment
- ☑ General Emergency Procedures (e.g., locations of air horns and what 1 or 2 blasts indicate)
- ☑ Site/Regional Emergency Procedures (e.g., earthquake response, typhoon response, etc.)
- ☑ Medical Emergency Response Procedures (e.g., exposure control precautions, location of first aid kit, etc.)
- ☑ Hazardous Materials Spill Procedures
- ☑ Applicable SOPs (e.g., Hearing Conservation Program, Safe Driving, etc.)
- ☑ Injury/Illness Reporting Procedures
- ☑ Route to Hospital and Medical Care Provider Visit Guidelines
- ☑ Hazard Analysis of Work Tasks (chemical, physical, biological and energy health hazards and effects)

Safety suggestions by site workers: N/A - initial briefing

Action taken on previous suggestions: N/A - initial briefing

Injuries/accidents/personnel changes since previous meeting: N/A initial briefing

Fmr Myrtle Beach AFB
FT016P

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report *(continued)*

amec

Observations of unsafe work practices/conditions that have developed since previous meeting: N/A

Location of (or changes in the locations of) evacuation routes/safe refuge areas: N/A

Additional comments: PFC checklist daily; H+S tailgate daily

Attendee signatures below indicate acknowledgment of the information and willingness to abide by the procedures discussed during this safety meeting.

Name (print)	Company	Signature
EVER GUILLEN	AMEC FW	

Meeting conducted by: Andrew Smith (print) Title: H+S Coord.

Signature: Date/Time: 0830 21 Jul 2015

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report

Check One:

☐ Initial Kickoff Safety Meeting ☑ Regular/Daily Tailgate Safety Meeting ☐ Unscheduled Tailgate Safety Meeting

Date: 22 Jul 2015 Site: Fmr. Myrtle Beach AFB, FT816P

Field Manager: A. Smits *(print)* Site Health and Safety Coordinator: A. Smits *(print)*

Order of Business

Topics Discussed (check all that apply):

- ☐ Site History/Site Layout
- ☐ Scope of Work
- ☑ Personnel Responsibilities
- ☐ Medical Surveillance Requirements
- ☐ Training Requirements
- ☐ Safe Work Practices
- ☐ Logs, Reports, Recordkeeping
- ☐ Sanitation and Illumination
- ☐ Air Surveillance Type and Frequency
- ☐ Monitoring Instruments and Personal Monitoring
- ☐ Action Levels
- ☑ Accident Reporting Procedures
- ☐ Site Control (visitor access, buddy system, work zones, security, communications)
- ☐ Discussion of previous "near misses" including work crew suggestions to correct work practices to avoid similar occurrences
- ☐ Engineering Controls
- ☑ PPE Required/PPE Used
- ☑ Define PPE Levels, Donning, Doffing Procedures
- ☐ Physical Hazards and Controls (e.g., overhead utility lines)
- ☐ Decontamination Procedures for Personnel and Equipment
- ☐ General Emergency Procedures (e.g., locations of air horns and what 1 or 2 blasts indicate)
- ☐ Site/Regional Emergency Procedures (e.g., earthquake response, typhoon response, etc.)
- ☐ Medical Emergency Response Procedures (e.g., exposure control precautions, location of first aid kit, etc.)
- ☐ Hazardous Materials Spill Procedures
- ☐ Applicable SOPs (e.g., Hearing Conservation Program, Safe Driving, etc.)
- ☑ Injury/Illness Reporting Procedures
- ☐ Route to Hospital and Medical Care Provider Visit Guidelines
- ☐ Hazard Analysis of Work Tasks (chemical, physical, biological and energy health hazards and effects)

Safety suggestions by site workers: (NONE)

Action taken on previous suggestions: (N/A)

Injuries/accidents/personnel changes since previous meeting: (NONE)

Fmr Myrtle Beach AFB
FT016P

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report *(continued)*

amec

Observations of unsafe work practices/conditions that have developed since previous meeting: NONE

Location of (or changes in the locations of) evacuation routes/safe refuge areas: NONE

Additional comments: NONE

Attendee signatures below indicate acknowledgment of the information and willingness to abide by the procedures discussed during this safety meeting.

Name (print)	Company	Signature
EVER GUILLEN	AMEC FW	

Meeting conducted by: Andrew Smits *(print)* Title: Field Mgr./HH SCoord

Signature: Date/Time: 1215 22 Jul 2015

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report

Check One:

☐ Initial Kickoff Safety Meeting ☑ Regular/Daily Tailgate Safety Meeting ☐ Unscheduled Tailgate Safety Meeting

Date: 23 July 2015 Site: Fmr. Myrtle Beach AFB, FT016P

Field Manager: Andrew Smits *(print)* Site Health and Safety Coordinator: Andrew Smits *(print)*

Order of Business

Topics Discussed (check all that apply):

- ☐ Site History/Site Layout
- ☐ Scope of Work
- ☐ Personnel Responsibilities
- ☐ Medical Surveillance Requirements
- ☐ Training Requirements
- ☑ Safe Work Practices
- ☐ Logs, Reports, Recordkeeping
- ☐ Sanitation and Illumination
- ☐ Air Surveillance Type and Frequency
- ☐ Monitoring Instruments and Personal Monitoring
- ☐ Action Levels
- ☐ Accident Reporting Procedures
- ☐ Site Control (visitor access, buddy system, work zones, security, communications)
- ☐ Discussion of previous "near misses" including work crew suggestions to correct work practices to avoid similar occurrences
- ☐ Engineering Controls
- ☐ PPE Required/PPE Used
- ☐ Define PPE Levels, Donning, Doffing Procedures
- ☑ Physical Hazards and Controls (e.g., overhead utility lines)
- ☐ Decontamination Procedures for Personnel and Equipment
- ☐ General Emergency Procedures (e.g., locations of air horns and what 1 or 2 blasts indicate)
- ☐ Site/Regional Emergency Procedures (e.g., earthquake response, typhoon response, etc.)
- ☐ Medical Emergency Response Procedures (e.g., exposure control precautions, location of first aid kit, etc.)
- ☐ Hazardous Materials Spill Procedures
- ☐ Applicable SOPs (e.g., Hearing Conservation Program, Safe Driving, etc.)
- ☐ Injury/Illness Reporting Procedures
- ☐ Route to Hospital and Medical Care Provider Visit Guidelines
- ☐ Hazard Analysis of Work Tasks (chemical, physical, biological and energy health hazards and effects)

Safety suggestions by site workers: (NONE)

Action taken on previous suggestions: (NONE)

Injuries/accidents/personnel changes since previous meeting: (NONE)

Fmr Myrtle Beach AFB
FT016P

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report *(continued)*

amec

Observations of unsafe work practices/conditions that have developed since previous meeting: (NONE)

Location of (or changes in the locations of) evacuation routes/safe refuge areas: (NONE)

Additional comments: slip + trip hazards in wooded area, biological hazards in wooded area.

Attendee signatures below indicate acknowledgment of the information and willingness to abide by the procedures discussed during this safety meeting.

Name (print)	Company	Signature
EVER GUILLEN	AMEC FW	

23 Jul 2015

Meeting conducted by: Andrew Smith (print)

Title: Field Mgr.

Signature:

Date/Time: 23 July 2015 0715

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report

amec

Check One:

☐ Initial Kickoff Safety Meeting ☑ Regular/Daily Tailgate Safety Meeting ☐ Unscheduled Tailgate Safety Meeting

Date: 24 July 2015 Site: Fmr. Myrtle Beach AFB, FTØ16P

Field Manager: A. Smits *(print)* Site Health and Safety Coordinator: A. Smits *(print)*

Order of Business

Topics Discussed (check all that apply):

- ☐ Site History/Site Layout
- ☐ Scope of Work
- ☐ Personnel Responsibilities
- ☐ Medical Surveillance Requirements
- ☐ Training Requirements
- ☑ Safe Work Practices
- ☐ Logs, Reports, Recordkeeping
- ☐ Sanitation and Illumination
- ☐ Air Surveillance Type and Frequency
- ☐ Monitoring Instruments and Personal Monitoring
- ☐ Action Levels
- ☐ Accident Reporting Procedures
- ☐ Site Control (visitor access, buddy system, work zones, security, communications)
- ☑ Discussion of previous "near misses" including work crew suggestions to correct work practices to avoid similar occurrences
- ☐ Engineering Controls
- ☑ PPE Required/PPE Used - double gloves for drum handling
- ☐ Define PPE Levels, Donning, Doffing Procedures
- ☐ Physical Hazards and Controls (e.g., overhead utility lines)
- ☐ Decontamination Procedures for Personnel and Equipment
- ☐ General Emergency Procedures (e.g., locations of air horns and what 1 or 2 blasts indicate)
- ☐ Site/Regional Emergency Procedures (e.g., earthquake response, typhoon response, etc.)
- ☐ Medical Emergency Response Procedures (e.g., exposure control precautions, location of first aid kit, etc.)
- ☐ Hazardous Materials Spill Procedures
- ☐ Applicable SOPs (e.g., Hearing Conservation Program, Safe Driving, etc.)
- ☐ Injury/Illness Reporting Procedures
- ☐ Route to Hospital and Medical Care Provider Visit Guidelines
- ☐ Hazard Analysis of Work Tasks (chemical, physical, biological and energy health hazards and effects)

Safety suggestions by site workers: wet conds. from overnight rains, may create slip + trip. and road traffic near loc. Ø6; be aware of pinch points on drum lids / rings

Action taken on previous suggestions: (none)

Injuries/accidents/personnel changes since previous meeting: (none)

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report *(continued)*

Observations of unsafe work practices/conditions that have developed since previous meeting: (NONE)

Location of (or changes in the locations of) evacuation routes/safe refuge areas: (none)

Additional comments: (none)

Attendee signatures below indicate acknowledgment of the information and willingness to abide by the procedures discussed during this safety meeting.

Name (print)	Company	Signature
EVER GUILLEN	AMEC FW	

Meeting conducted by: A. Smits *(print)* Title: H+S Coord.

Signature: Time: 0700 24/Jul/15

Health and Safety/Forms/VOLUME II/**Tailgate.FH8**

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report

Check One:

☐ Initial Kickoff Safety Meeting ☑ Regular/Daily Tailgate Safety Meeting ☐ Unscheduled Tailgate Safety Meeting

Date: 13Oct2015 Site: Fmr Myrtle Beach AFB FTOKoP

Field Manager: Andrew Smits *(print)* Site Health and Safety Coordinator: Andrew Smits *(print)*

Order of Business

Topics Discussed (check all that apply):

- ☑ Site History/Site Layout
- ☑ Scope of Work
- ☑ Personnel Responsibilities
- ☑ Medical Surveillance Requirements
- ☑ Training Requirements
- ☑ Safe Work Practices
- ☐ Logs, Reports, Recordkeeping
- ☑ Sanitation and Illumination
- ☐ Air Surveillance Type and Frequency
- ☐ Monitoring Instruments and Personal Monitoring
- ☒ Action Levels
- ☑ Accident Reporting Procedures
- ☑ Site Control (visitor access, buddy system, work zones, security, communications)
- ☑ Discussion of previous "near misses" including work crew suggestions to correct work practices to avoid similar occurrences
- ☑ Engineering Controls
- ☑ PPE Required/PPE Used
- ☑ Define PPE Levels, Donning, Doffing Procedures
- ☑ Physical Hazards and Controls (e.g., overhead utility lines)
- N/A ☐ Decontamination Procedures for Personnel and Equipment
- ☑ General Emergency Procedures (e.g., locations of air horns and what 1 or 2 blasts indicate)
- ☑ Site/Regional Emergency Procedures (e.g., earthquake response, typhoon response, etc.)
- ☑ Medical Emergency Response Procedures (e.g., exposure control precautions, location of first aid kit, etc.)
- ☑ Hazardous Materials Spill Procedures
- ☑ Applicable SOPs (e.g., Hearing Conservation Program, Safe Driving, etc.)
- ☑ Injury/Illness Reporting Procedures
- ☑ Route to Hospital and Medical Care Provider Visit Guidelines
- ☑ Hazard Analysis of Work Tasks (chemical, physical, biological and energy health hazards and effects)

Safety suggestions by site workers: N/A

Action taken on previous suggestions: N/A

Injuries/accidents/personnel changes since previous meeting: N/A

AMEC Environment and Infrastructure
Tailgate Safety Meeting Report *(continued)*

Observations of unsafe work practices/conditions that have developed since previous meeting: N/A

Location of (or changes in the locations of) evacuation routes/safe refuge areas: N/A

Additional comments: None at this time.

Attendee signatures below indicate acknowledgment of the information and willingness to abide by the procedures discussed during this safety meeting.

Name (print)	Company	Signature
Robert Rowe	LDSI	
Joseph Vuchak	LDSI	

10/13/15

Meeting conducted by: Andrew Smits (print) Title: Field Mgr.

Signature: Time: 10/13/2015 10:45

APPENDIX B-2

Daily PFC Checklist

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Attachment 1 to SOP AMEC-01
Daily PFC Protocol Checklist

amec

Date: 6 July 2015 Installation Name: Fmr Myrtle Beach AFB

Weather (*temp./precipitation*): 90-95°, lt/ht breeze, ptly-mostly cloudy Site Name: FT016P

Field Clothing and PPE:

- ☑ No clothing or boots containing Gore-Tex™
- ☑ All safety boots made from polyurethane and PVC
- ☑ No materials containing Tyvek®
- ☑ Field crew has not used fabric softener on clothing
- ☑ Field crew has not used cosmetics, moisturizers, hand cream, or other related products this morning
- ☑ Field crew has not applied unauthorized sunscreen or insect repellant

Field Equipment:

- ☑ No Teflon® containing materials on-site
- ☑ All sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene
- ☑ No waterproof field books on-site
- ☑ No plastic clipboards, binders, or spiral hard cover notebooks on-site
- ☑ No adhesives (Post-It Notes) on-site
- ☐ Coolers filled with regular ice only. No chemical (blue) ice packs in possession

Sample Containers: NO SAMPLING

- ☑ All sample containers made of HDPE or polypropylene. Samples are not stored in containers made of LDPE
- ☑ Caps are lined or unlined and made of HDPE or polypropylene

Wet Weather (as applicable):

- ☒ Wet weather gear made of polyurethane and PVC only — no precip.

Equipment Decontamination:

- ☑ "PFC-free" water on-site for decontamination of sample equipment. No other water sources to be used. N/A- no sampling
- ☑ Alconox and Liquinox to be used as decontamination materials

Food Considerations:

- ☑ No food or drink on-site with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

If any applicable boxes cannot be checked, the Field Manager shall describe the noncompliance issues below and work with field personnel to address noncompliance issues prior to commencement of that day's work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance. Repeated failure to comply with PFC sample protocols will result in the permanent removal of worker(s) from the site.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

No sampling performed this day.

Field Manager Name: Andrew Smith

Field Manager Signature: Andrew Smith Time: 0900

Attachment 1 to SOP AMEC-01
Daily PFC Protocol Checklist

amec

Date: 7 July 2015 Installation Name: Fmr Myrtle Beach AFB

Weather (*temp./precipitation*): 85-90°F clear to cloudy (forecast), 20-30% chance Tstorms in PM hours Site Name: FT016P

Field Clothing and PPE:

- ☑ No clothing or boots containing Gore-Tex™
- ☑ All safety boots made from polyurethane and PVC
- ☑ No materials containing Tyvek®
- ☑ Field crew has not used fabric softener on clothing
- ☑ Field crew has not used cosmetics, moisturizers, hand cream, or other related products this morning
- ☑ Field crew has not applied unauthorized sunscreen or insect repellant

Field Equipment:

- ☑ No Teflon® containing materials on-site
- ☑ All sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene
- ☑ No waterproof field books on-site
- ☑ No plastic clipboards, binders, or spiral hard cover notebooks on-site
- ☑ No adhesives (Post-It Notes) on-site
- ☑ Coolers filled with regular ice only. No chemical (blue) ice packs in possession

Sample Containers:

- ☑ All sample containers made of HDPE or polypropylene. Samples are not stored in containers made of LDPE
- ☑ Caps are lined or unlined and made of HDPE or polypropylene

Wet Weather (as applicable):

- ☑ Wet weather gear made of polyurethane and PVC only No precipitation on 7 July 2015

Equipment Decontamination:

- ☑ "PFC-free" water supplemented by municipal water source at B.565 on-site for decontamination of sample equipment. No other water sources to be used.
- ☑ Alconox and Liquinox to be used as decontamination materials

Food Considerations:

- ☑ No food or drink on-site with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

If any applicable boxes cannot be checked, the Field Manager shall describe the noncompliance issues below and work with field personnel to address noncompliance issues prior to commencement of that day's work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance. Repeated failure to comply with PFC sample protocols will result in the permanent removal of worker(s) from the site.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

(NONE)

Field Manager Name: Andrew Smith

Field Manager Signature: Andrew Smith Time: 0815

Attachment 1 to SOP AMEC-01
Daily PFC Protocol Checklist

amec

Date: 8 Jul 2015 Installation Name: Fmr Myrtle Beach AFB

Weather (*temp./precipitation*): 85-95°, clear - ptly cloudy, light breeze Site Name: FT016P

Field Clothing and PPE:

- ☑ No clothing or boots containing Gore-Tex™
- ☑ All safety boots made from polyurethane and PVC
- ☑ No materials containing Tyvek®
- ☑ Field crew has not used fabric softener on clothing
- ☑ Field crew has not used cosmetics, moisturizers, hand cream, or other related products this morning
- ☑ Field crew has not applied unauthorized sunscreen or insect repellant

Field Equipment:

- ☑ No Teflon® containing materials on-site
- ☑ All sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene
- ☑ No waterproof field books on-site
- ☑ No plastic clipboards, binders, or spiral hard cover notebooks on-site
- ☑ No adhesives (Post-It Notes) on-site
- ☑ Coolers filled with regular ice only. No chemical (blue) ice packs in possession

Sample Containers:

- ☑ All sample containers made of HDPE or polypropylene. Samples are not stored in containers made of LDPE
- ☑ Caps are lined or unlined and made of HDPE or polypropylene

Wet Weather (as applicable):

- ☑ Wet weather gear made of polyurethane and PVC only

Equipment Decontamination:

- ☑ "PFC-free" water on-site for decontamination of sample equipment. No other water sources to be used. Municipal water source for potable water.
- ☑ Alconox and Liquinox to be used as decontamination materials

Food Considerations:

- ☑ No food or drink on-site with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

If any applicable boxes cannot be checked, the Field Manager shall describe the noncompliance issues below and work with field personnel to address noncompliance issues prior to commencement of that day's work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance. Repeated failure to comply with PFC sample protocols will result in the permanent removal of worker(s) from the site.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

(NONE)

Field Manager Name: Andrew Smith

Field Manager Signature: Andrew Smith Time: 07:20

Attachment 1 to SOP AMEC-01
Daily PFC Protocol Checklist

amec

Date: 9 July 2015 Installation Name: Fmr Myrtle Beach AFB

Weather (*temp./precipitation*): 80-95°F, Site Name: FT016P

hazy - ptly cloudy, chance T-storms in PM

Field Clothing and PPE:

- [x] No clothing or boots containing Gore-Tex™
- [x] All safety boots made from polyurethane and PVC
- [x] No materials containing Tyvek®
- [x] Field crew has not used fabric softener on clothing
- [x] Field crew has not used cosmetics, moisturizers, hand cream, or other related products this morning
- [x] Field crew has not applied unauthorized sunscreen or insect repellant

Field Equipment:

- [x] No Teflon® containing materials on-site
- [x] All sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene
- [x] No waterproof field books on-site
- [x] No plastic clipboards, binders, or spiral hard cover notebooks on-site
- [x] No adhesives (Post-It Notes) on-site
- [x] Coolers filled with regular ice only. No chemical (blue) ice packs in possession

Sample Containers:

- [x] All sample containers made of HDPE or polypropylene. Samples are not stored in containers made of LDPE
- [x] Caps are lined or unlined and made of HDPE or polypropylene

Wet Weather (as applicable):

- [x] Wet weather gear made of polyurethane and PVC only

Equipment Decontamination:

- [x] "PFC-free" water on-site for decontamination of sample equipment. No other water sources to be used.
- [x] Alconox and Liquinox to be used as decontamination materials

Food Considerations:

- [x] No food or drink on-site with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

If any applicable boxes cannot be checked, the Field Manager shall describe the noncompliance issues below and work with field personnel to address noncompliance issues prior to commencement of that day's work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance. Repeated failure to comply with PFC sample protocols will result in the permanent removal of worker(s) from the site.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

(NONE)

Field Manager Name: Andrew Smits

Field Manager Signature: Andrew Smits Time: 0730

Attachment 1 to SOP AMEC-01
Daily PFC Protocol Checklist

amec

Date: 10 Jul 2015 Installation Name: Fmr Myrtle Beach AFB

Weather (*temp./precipitation*): 85-95°, humid, hazy Site Name: FT016P
light breeze, 20% chance T-storms

Field Clothing and PPE:

- ☑ No clothing or boots containing Gore-Tex™
- ☑ All safety boots made from polyurethane and PVC
- ☑ No materials containing Tyvek®
- ☑ Field crew has not used fabric softener on clothing
- ☑ Field crew has not used cosmetics, moisturizers, hand cream, or other related products this morning
- ☑ Field crew has not applied unauthorized sunscreen or insect repellant

Field Equipment:

- ☑ No Teflon® containing materials on-site
- ☑ All sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene
- ☑ No waterproof field books on-site
- ☑ No plastic clipboards, binders, or spiral hard cover notebooks on-site
- ☑ No adhesives (Post-It Notes) on-site
- ☑ Coolers filled with regular ice only. No chemical (blue) ice packs in possession

Sample Containers:

- ☑ All sample containers made of HDPE or polypropylene. Samples are not stored in containers made of LDPE
- ☑ Caps are lined or unlined and made of HDPE or polypropylene

Wet Weather (as applicable):

- ☑ Wet weather gear made of polyurethane and PVC only

Equipment Decontamination:

- ☑ "PFC-free" water on-site for decontamination of sample equipment. No other water sources to be used.
- ☑ Alconox and Liquinox to be used as decontamination materials

Food Considerations:

- ☑ No food or drink on-site with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

If any applicable boxes cannot be checked, the Field Manager shall describe the noncompliance issues below and work with field personnel to address noncompliance issues prior to commencement of that day's work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance. Repeated failure to comply with PFC sample protocols will result in the permanent removal of worker(s) from the site.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

(NONE)

Field Manager Name: Andrew Smith

Field Manager Signature: [signature] Time: 0630

Attachment 1 to SOP AMEC-01
Daily PFC Protocol Checklist

amec

Date: 13 July 2015 Installation Name: Fmr Myrtle Beach AFB

Weather (*temp./precipitation*): 90-95+ humid Site Name: FT016P
breezy from South, ptly cloudy

Field Clothing and PPE:

- ☑ No clothing or boots containing Gore-Tex™
- ☑ All safety boots made from polyurethane and PVC
- ☑ No materials containing Tyvek®
- ☑ Field crew has not used fabric softener on clothing
- ☑ Field crew has not used cosmetics, moisturizers, hand cream, or other related products this morning
- ☑ Field crew has not applied unauthorized sunscreen or insect repellant

Field Equipment:

- ☑ No Teflon® containing materials on-site
- ☑ All sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene
- ☑ No waterproof field books on-site
- ☑ No plastic clipboards, binders, or spiral hard cover notebooks on-site
- ☑ No adhesives (Post-It Notes) on-site
- ☑ Coolers filled with regular ice only. No chemical (blue) ice packs in possession

Sample Containers:

- ☑ All sample containers made of HDPE or polypropylene. Samples are not stored in containers made of LDPE
- ☑ Caps are lined or unlined and made of HDPE or polypropylene

Wet Weather (as applicable):

- ☑ Wet weather gear made of polyurethane and PVC only

Equipment Decontamination:

- ☑ PFC-free" water on-site for decontamination of sample equipment. No other water sources to be used. Potable municipal water from B.505
- ☑ Alconox and Liquinox to be used as decontamination materials

Food Considerations:

- ☑ No food or drink on-site with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

If any applicable boxes cannot be checked, the Field Manager shall describe the noncompliance issues below and work with field personnel to address noncompliance issues prior to commencement of that day's work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance. Repeated failure to comply with PFC sample protocols will result in the permanent removal of worker(s) from the site.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

(NONE)

Field Manager Name: Andrew Smith

Field Manager Signature: Andrew Smith Time: 1030

Attachment 1 to SOP AMEC-01
Daily PFC Protocol Checklist

amec

Date: 14 Jul 2015 Installation Name: Fmr Myrtle Beach AFB

Weather (*temp./precipitation*): 80°-90°, mostly cloudy - pdly cloudy, chance of T-Storms in PM Site Name: FT016P

Field Clothing and PPE:

- ☑ No clothing or boots containing Gore-Tex™
- ☑ All safety boots made from polyurethane and PVC
- ☑ No materials containing Tyvek®
- ☑ Field crew has not used fabric softener on clothing
- ☑ Field crew has not used cosmetics, moisturizers, hand cream, or other related products this morning
- ☑ Field crew has not applied unauthorized sunscreen or insect repellant

Field Equipment:

- ☑ No Teflon® containing materials on-site
- ☑ All sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene
- ☑ No waterproof field books on-site
- ☑ No plastic clipboards, binders, or spiral hard cover notebooks on-site
- ☑ No adhesives (Post-It Notes) on-site
- ☑ Coolers filled with regular ice only. No chemical (blue) ice packs in possession

Sample Containers:

- ☑ All sample containers made of HDPE or polypropylene. Samples are not stored in containers made of LDPE
- ☑ Caps are lined or unlined and made of HDPE or polypropylene

Wet Weather (as applicable):

- ☑ Wet weather gear made of polyurethane and PVC only; no precipitation during work activities this day.

Equipment Decontamination:

- ☑ "PFC-free" water on-site for decontamination of sample equipment. No other water sources to be used.
- ☑ Alconox and Liquinox to be used as decontamination materials

Food Considerations:

- ☑ No food or drink on-site with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

If any applicable boxes cannot be checked, the Field Manager shall describe the noncompliance issues below and work with field personnel to address noncompliance issues prior to commencement of that day's work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance. Repeated failure to comply with PFC sample protocols will result in the permanent removal of worker(s) from the site.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

(NONE)

Field Manager Name: Andrew Smits

Field Manager Signature: [signature] Time: 0720, 14 Jul 15

Attachment 1 to SOP AMEC-01
Daily PFC Protocol Checklist

amec

Date: 15 Jul 2015 Installation Name: Fmr Myrtle Beach AFB

Weather (*temp./precipitation*): 80-90°F, clear Site Name: FT016P

Field Clothing and PPE:

- [x] No clothing or boots containing Gore-Tex™
- [x] All safety boots made from polyurethane and PVC
- [x] No materials containing Tyvek®
- [x] Field crew has not used fabric softener on clothing
- [x] Field crew has not used cosmetics, moisturizers, hand cream, or other related products this morning
- [x] Field crew has not applied unauthorized sunscreen or insect repellant

Field Equipment:

- [x] No Teflon® containing materials on-site
- [x] All sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene
- [x] No waterproof field books on-site
- [x] No plastic clipboards, binders, or spiral hard cover notebooks on-site
- [x] No adhesives (Post-It Notes) on-site
- [x] Coolers filled with regular ice only. No chemical (blue) ice packs in possession

Sample Containers:

- [x] All sample containers made of HDPE or polypropylene. Samples are not stored in containers made of LDPE
- [x] Caps are lined or unlined and made of HDPE or polypropylene

Wet Weather (as applicable):

- [x] Wet weather gear made of polyurethane and PVC only No rain anticipated

Equipment Decontamination:

- [x] "PFC-free" water on-site for decontamination of sample equipment. No other water sources to be used.
- [x] Alconox and Liquinox to be used as decontamination materials

Food Considerations:

- [x] No food or drink on-site with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

If any applicable boxes cannot be checked, the Field Manager shall describe the noncompliance issues below and work with field personnel to address noncompliance issues prior to commencement of that day's work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance. Repeated failure to comply with PFC sample protocols will result in the permanent removal of worker(s) from the site.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

(NONE)

Field Manager Name: Andrew Smith

Field Manager Signature: Andrew Smith Time: 0715

Attachment 1 to SOP AMEC-01
Daily PFC Protocol Checklist

amec

Date: 16 Jul 2015 Installation Name: Fmr Myrtle Beach AFB

Weather (*temp./precipitation*): 80-85° clear calm Site Name: FT016P

Field Clothing and PPE:

- ☑ No clothing or boots containing Gore-Tex™
- ☑ All safety boots made from polyurethane and PVC
- ☑ No materials containing Tyvek®
- ☑ Field crew has not used fabric softener on clothing
- ☑ Field crew has not used cosmetics, moisturizers, hand cream, or other related products this morning
- ☑ Field crew has not applied unauthorized sunscreen or insect repellant

Field Equipment:

- ☑ No Teflon® containing materials on-site
- ☑ All sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene
- ☑ No waterproof field books on-site
- ☑ No plastic clipboards, binders, or spiral hard cover notebooks on-site
- ☑ No adhesives (Post-It Notes) on-site
- ☑ Coolers filled with regular ice only. No chemical (blue) ice packs in possession

Sample Containers:

- ☐ All sample containers made of HDPE or polypropylene. Samples are not stored in containers made of LDPE
- ☐ Caps are lined or unlined and made of HDPE or polypropylene

N/A – no samples collected this day

Wet Weather (as applicable):

- ☑ Wet weather gear made of polyurethane and PVC only

Equipment Decontamination:

- ☑ "PFC-free" water on-site for decontamination of sample equipment. No other water sources to be used.
- ☑ Alconox and Liquinox to be used as decontamination materials

Food Considerations:

- ☑ No food or drink on-site with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

If any applicable boxes cannot be checked, the Field Manager shall describe the noncompliance issues below and work with field personnel to address noncompliance issues prior to commencement of that day's work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance. Repeated failure to comply with PFC sample protocols will result in the permanent removal of worker(s) from the site.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

(NONE)

Field Manager Name: Andrew Smith

Field Manager Signature: [signature] Time: 0805

Attachment 1 to SOP AMEC-01
Daily PFC Protocol Checklist

amec

Date: 21 July 2015 Installation Name: Fmr Myrtle Beach AFB

Weather (*temp./precipitation*): _____ Site Name: FT016P

Field Clothing and PPE:

- ☑ No clothing or boots containing Gore-Tex™
- ☑ All safety boots made from polyurethane and PVC or rubber
- ☑ No materials containing Tyvek®
- ☑ Field crew has not used fabric softener on clothing
- ☑ Field crew has not used cosmetics, moisturizers, hand cream, or other related products this morning
- ☑ Field crew has not applied unauthorized sunscreen or insect repellant

Field Equipment:

- ☑ No Teflon® containing materials on-site
- ☑ All sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene
- ☑ No waterproof field books on-site
- ☑ No plastic clipboards, binders, or spiral hard cover notebooks on-site
- ☑ No adhesives (Post-It Notes) on-site
- ☑ Coolers filled with regular ice only. No chemical (blue) ice packs in possession

Sample Containers:

- ☐ All sample containers made of HDPE or polypropylene. Samples are not stored in containers made of LDPE
- ☐ Caps are lined or unlined and made of HDPE or polypropylene

Wet Weather (as applicable):

- ☑ Wet weather gear made of polyurethane and PVC only

Equipment Decontamination:

- ☑ "PFC-free" water on-site for decontamination of sample equipment. No other water sources to be used. Approved municipal potable source
- ☑ Alconox and Liquinox to be used as decontamination materials

Food Considerations:

- ☑ No food or drink on-site with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

If any applicable boxes cannot be checked, the Field Manager shall describe the noncompliance issues below and work with field personnel to address noncompliance issues prior to commencement of that day's work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance. Repeated failure to comply with PFC sample protocols will result in the permanent removal of worker(s) from the site.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

adhesives on pad of engineering paper; sunshades/pop-up tents to be used during devel./sampling; nadel/gloves during set-up, take-down

Field Manager Name: Andrew Smith

Field Manager Signature: Andrew Smith Time: 0840

Attachment 1 to SOP AMEC-01
Daily PFC Protocol Checklist

amec

Date: 22 Jul 2015 Installation Name: Fmr Myrtle Beach AFB

Weather (*temp./precipitation*): pt ly cldy - clear, 95+, pH 4s breezy Site Name: FT016P

Field Clothing and PPE:

- [x] No clothing or boots containing Gore-Tex™
- [x] All safety boots made from polyurethane and PVC
- [x] No materials containing Tyvek®
- [x] Field crew has not used fabric softener on clothing
- [x] Field crew has not used cosmetics, moisturizers, hand cream, or other related products this morning
- [x] Field crew has not applied unauthorized sunscreen or insect repellant

Field Equipment:

- [x] No Teflon® containing materials on-site
- [x] All sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene
- [x] No waterproof field books on-site
- [x] No plastic clipboards, binders, or spiral hard cover notebooks on-site
- [x] No adhesives (Post-It Notes) on-site
- [x] Coolers filled with regular ice only. No chemical (blue) ice packs in possession

Sample Containers:

- [x] All sample containers made of HDPE or polypropylene. Samples are not stored in containers made of LDPE
- [x] Caps are lined or unlined and made of HDPE or polypropylene

Wet Weather (as applicable):

- [x] Wet weather gear made of polyurethane and PVC only

Equipment Decontamination:

- [x] "PFC-free" water on-site for decontamination of sample equipment. No other water sources to be used.
- [x] Alconox and Liquinox to be used as decontamination materials

Food Considerations:

- [x] No food or drink on-site with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

If any applicable boxes cannot be checked, the Field Manager shall describe the noncompliance issues below and work with field personnel to address noncompliance issues prior to commencement of that day's work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance. Repeated failure to comply with PFC sample protocols will result in the permanent removal of worker(s) from the site.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

(NONE)

Field Manager Name: Andrew Smits

Field Manager Signature: [signature] Time: 1220

Attachment 1 to SOP AMEC-01
Daily PFC Protocol Checklist

amec

Date: 23 July 2015 Installation Name: Fmr Myrtle Beach AFB

Weather (*temp./precipitation*): 80-90+°F, hazy Site Name: FT016P

Field Clothing and PPE:

- ☑ No clothing or boots containing Gore-Tex™
- ☑ All safety boots made from polyurethane and PVC
- ☑ No materials containing Tyvek®
- ☑ Field crew has not used fabric softener on clothing
- ☑ Field crew has not used cosmetics, moisturizers, hand cream, or other related products this morning
- ☑ Field crew has not applied unauthorized sunscreen or insect repellant

Field Equipment:

- ☑ No Teflon® containing materials on-site
- ☑ All sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene
- ☑ No waterproof field books on-site
- ☑ No plastic clipboards, binders, or spiral hard cover notebooks on-site
- ☑ No adhesives (Post-It Notes) on-site
- ☑ Coolers filled with regular ice only. No chemical (blue) ice packs in possession

Sample Containers:

- ☑ All sample containers made of HDPE or polypropylene. Samples are not stored in containers made of LDPE
- ☑ Caps are lined or unlined and made of HDPE or polypropylene

Wet Weather (as applicable):

- ☑ Wet weather gear made of polyurethane and PVC only

Equipment Decontamination:

- ☑ "PFC-free" water on-site for decontamination of sample equipment. No other water sources to be used.
- ☑ Alconox and Liquinox to be used as decontamination materials

Food Considerations:

- ☑ No food or drink on-site with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

If any applicable boxes cannot be checked, the Field Manager shall describe the noncompliance issues below and work with field personnel to address noncompliance issues prior to commencement of that day's work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance. Repeated failure to comply with PFC sample protocols will result in the permanent removal of worker(s) from the site.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

(NONE)

Field Manager Name: Andrew Smith

Field Manager Signature: [signature] Time: 0710

Attachment 1 to SOP AMEC-01
Daily PFC Protocol Checklist

amec

Date: 24 July 2015 Installation Name: Fmr. Myrtle Beach AFB

Weather (*temp./precipitation*): 75-80°, mostly cldy Site Name: FT 016 P
light breeze

Field Clothing and PPE:

- ☑ No clothing or boots containing Gore-Tex™
- ☑ All safety boots made from polyurethane and PVC
- ☑ No materials containing Tyvek®
- ☑ Field crew has not used fabric softener on clothing
- ☑ Field crew has not used cosmetics, moisturizers, hand cream, or other related products this morning
- ☑ Field crew has not applied unauthorized sunscreen or insect repellant

Field Equipment:

- ☑ No Teflon® containing materials on-site
- ☑ All sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene
- ☑ No waterproof field books on-site
- ☑ No plastic clipboards, binders, or spiral hard cover notebooks on-site
- ☑ No adhesives (Post-It Notes) on-site
- ☑ Coolers filled with regular ice only. No chemical (blue) ice packs in possession

Sample Containers:

- ☑ All sample containers made of HDPE or polypropylene. Samples are not stored in containers made of LDPE
- ☑ Caps are lined or unlined and made of HDPE or polypropylene

Wet Weather (as applicable):

- ☑ Wet weather gear made of polyurethane and PVC only

Equipment Decontamination:

- ☑ "PFC-free" water on-site for decontamination of sample equipment. No other water sources to be used. – Potable water drawn from municipal source - B.505
- ☑ Alconox and Liquinox to be used as decontamination materials

Food Considerations:

- ☑ No food or drink on-site with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

If any applicable boxes cannot be checked, the Field Manager shall describe the noncompliance issues below and work with field personnel to address noncompliance issues prior to commencement of that day's work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance. Repeated failure to comply with PFC sample protocols will result in the permanent removal of worker(s) from the site.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

(NONE)

Field Manager Name: Andrew Smith

Field Manager Signature: [signature] Time: 0710

Attachment 1 to SOP AMEC-01
AMEC Environment & Infrastructure, Inc.
Daily PFC Protocol Checklist

Date: 13 Oct 2015 Installation Name: Fmr. Myrtle Beach AFB

Weather (*temp./precipitation*): clear, 70-75°F, Site Name: FT016P
light breeze.

Field Clothing and PPE:

- ☑ No clothing or boots containing Gore-Tex™
- ☑ All safety boots made from polyurethane and PVC
- ☑ No materials containing Tyvek®
- ☑ Field crew has not used fabric softener on clothing
- ☑ Field crew has not used cosmetics, moisturizers, hand cream, or other related products this morning
- ☑ Field crew has not applied unauthorized sunscreen or insect repellant

Field Equipment:

- ☑ No Teflon® or LDPE containing materials on-site
- ☐ All sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene N/A as
- ☑ No waterproof field books on-site
- ☑ No plastic clipboards, binders, or spiral hard cover notebooks on-site
- ☑ No adhesives (Post-It Notes) on-site
- ☑ Coolers filled with regular ice only. No chemical (blue) ice packs in possession

Sample Containers: N/A

- ☐ All sample containers made of HDPE or polypropylene
- ☐ Caps are unlined and made of HDPE or polypropylene

Wet Weather (as applicable):

- ☐ Wet weather gear made of polyurethane and PVC only

Equipment Decontamination: N/A

- ☐ "PFC-free" water on-site for decontamination of sample equipment. No other water sources to be used.
- ☐ Alconox and Liquinox to be used as decontamination materials

Food Considerations:

- ☑ No food or drink on-site with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

If any applicable boxes cannot be checked, the Field Manager shall describe the noncompliance issues below and work with field personnel to address noncompliance issues prior to commencement of that day's work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance. Repeated failure to comply with PFC sample protocols will result in the permanent removal of worker(s) from the site.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

None

Field Manager Name: Andrew Smits

Field Manager Signature: [signature] Time: 1145 13 Oct 2015

Rev. 1
Date: 07/21/2014

APPENDIX B-3

Calibration Logs

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Calibration Form

PFCs Release Determinationat Multiple BRAC Bases
Contract FA8903-08-8766 Task Order 0177

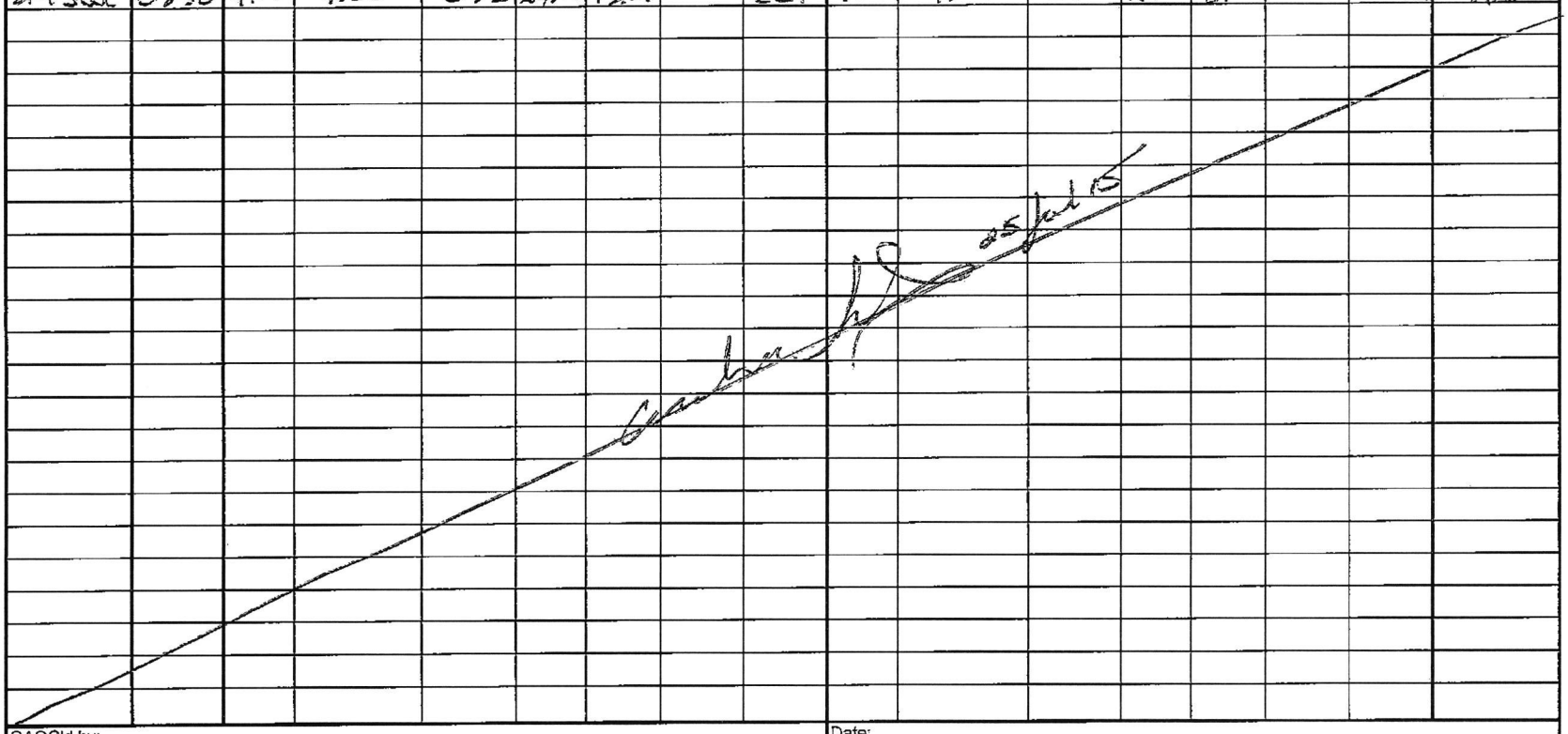
Project Number: 775290177. 0003.3008

Installation/Site: Fmr Myrtle Beach AFB/FTO16P

Instrument: Water Quality Checker Unit "A"
U.S. Environ. Equip rental unit
Sensor: Horiba U-52, U.S.E. # WEWBOULO
Monitor: Horiba U-5000 ID# 22x40 EXT

① Calibrated using:

		Before Calibration							After Calibration ②							
Date	Time (24hr)	pH (SU)	Conductivity (mS/m)	Turbidity (NTU)	Temp (C)	D.O. (mg/L)	Salinity (%)	ORP/Eh (mV)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Temp (C)	D.O. (mg/L)	Salinity (%)	ORP/Eh (mV)	Initials of Person Calibrating
22 Jul 15	1050	4.32	4.51	7.2	22.74	8.96	—	258	4.01	4.49	0.0	22.77	8.77	—	255	AS
23 Jul	0920	3.96	4.35	12.3	29.45	8.40	-	231	4.02	4.51	0.0	29.51	8.75	-	234	AS
24 Jul	0830	4.07	4.50	0.3	24.44	13.39	-	209	4.01	4.49	0.0	24.46	8.72	—	212	AS



QAQC'd by:

Date:

Calibration Form
Rev. 1, Date: 07/21/2014

Calibration Form

PFCs Release Determinationat Multiple BRAC Bases
Contract FA8903-08-8766 Task Order 0177

Project Number: 775290177.0003.3008

Installation/Site: Former Myrtle Beach AFB/FT016P

Instrument: PID - MiniRAE 2000 OVA unit "A"
US. Environ. Rental ID No. 110-900077
Calibrated to ambient air (zero) and span gas (100ppm isobutylene)

				Zero Isobutylene Before Calibration					Air Isobut. After Calibration							
Date	Time (24hr)	~~pH~~ (SU)	~~Conductivity~~ (~~mS/m~~)	Turbidity (NTU)	Temp (C)	D.O. (mg/L)	Salinity (%)	ORP/Eh (mV)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Temp (C)	D.O. (mg/L)	Salinity (%)	ORP/Eh (mV)	Initials of Person Calibrating
7/7/15	1327	0.0	100													JB
7/8/15	0657	0.0	100													JB
7/10/15	0627	0.0	100													JB
* 7/9/15	0800	0.1	99.2	—	—	—	—	—	0.0	100	—	—	—	—	—	AS
7/13/15	0935	0.3	100	—	—	—	—	—	0.0	100	—	—	—	—	—	AS
7/14/15	0700	0.0	99.7	—	—	—	—	—	0.0	100	—	—	—	—	—	AS
7/15/15	0650	0.0	101.0	—	—	—	—	—	0.0	100	—	—	—	—	—	AS

Calibration Form

amec

PFCs Release Determinationat Multiple BRAC Bases
Contract FA8903-08-8766 Task Order 0177

Project Number: 775290177. 0003.0300B

Instrument: Water Quality Checker Unit "B" U.S. En Horiba # VESF8KTY
Probe/Sensor: U-52 VESF8KTY
Monitor: U-5000 T1RSFENL

Installation/Site: Fmr Myrtle Beach AFB / FT016P

		Before Calibration							After Calibration							
Date	Time (24hr)	pH (SU)	Conductivity (mS/m)	Turbidity (NTU)	Temp (C)	D.O. (mg/L)	Salinity (%)	ORP/Eh (mV)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Temp (C)	D.O. (mg/L)	Salinity (%)	ORP/Eh (mV)	Initials of Person Calibrating
7-21-15	0830	4.23	4.42	0.6	35.74	–	–	–	4.02	4.54	0.0	36.13	–	–	–	EG
22 Jul 15	1100	3.93	4.66	6.5	23.08	9.23	–	273	4.01	4.49	0.0	25.64	8.81	—	273	AS
7-23-15	800	4.35	4.38	0.0	27.56	9.61	–	254	4.01	4.50	0.0	27.55	8.67	–	261	EG
7-24-15	830	4.08	4.49	0.0	29.66	10.43	–	230	4.01	4.49	0.0	24.73	9.21	–	236	EG

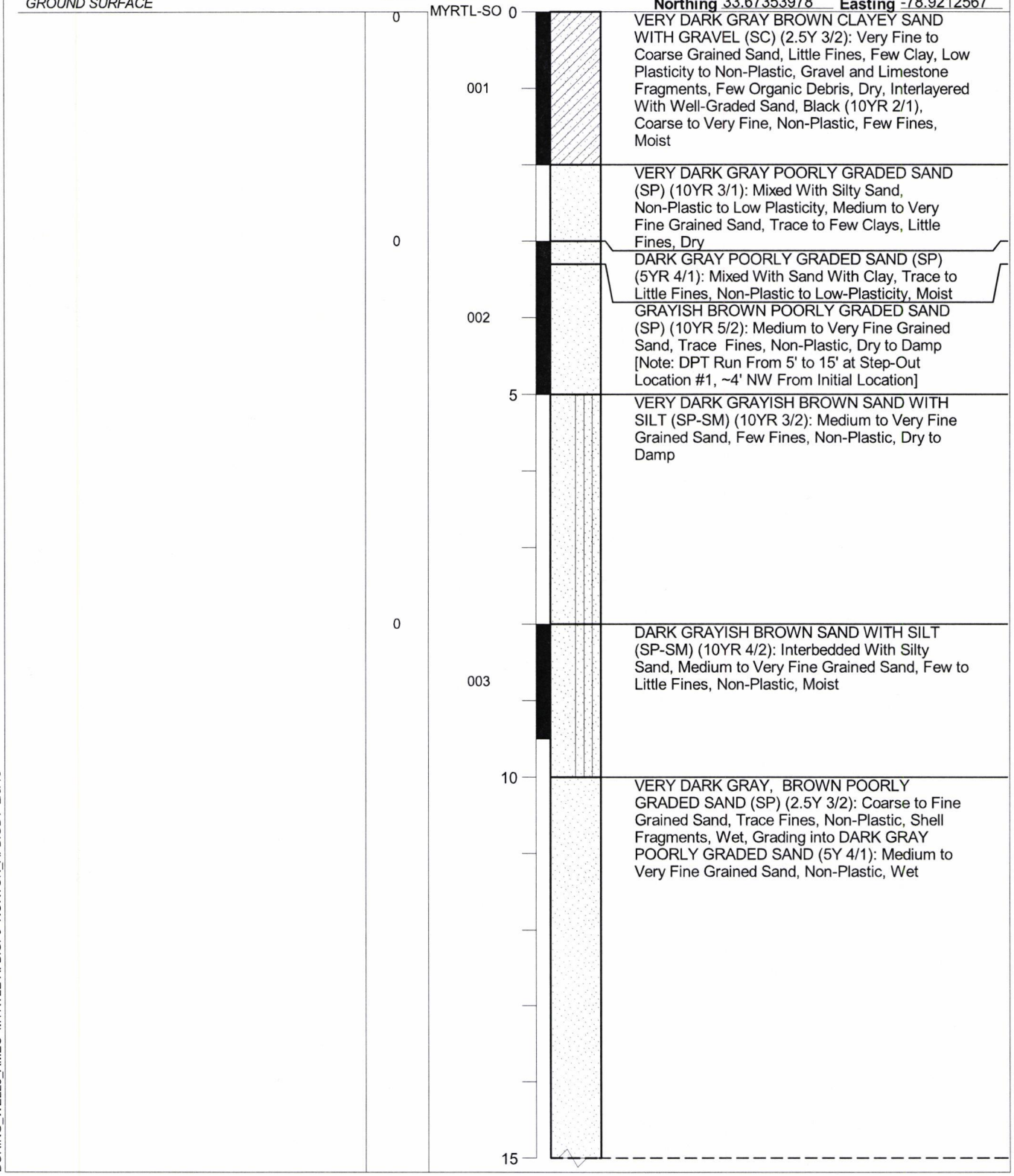
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APPENDIX B-4

Drilling and Sample Collection Logs

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Date 7/8/15
Driller Randy Hoffman
Drilling Method Geoprobe DPT (7822DT)
Sampler 5-Foot Sample Barrel with Plastic Liners
Hole Dia. 3"
Logged by Andrew Smits **Datum**
Surface Elevation 22.42
Northing 33.67353978 **Easting** -78.9212567



BORING_WELL3_AMEC_MYRTLE AFB.GPJ_NORTON_AFB.GDT 2/5/16

PLATE

amec foster wheeler

Log of Boring MYRTL-FT016P-01
FT016P-01
Myrtle AFB
Myrtle Beach, South Carolina

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
A. Conklin	775290177.003.03008				

Date 7/8/15
Driller Randy Hoffman
Drilling Method Geoprobe DPT (7822DT)
Sampler 5-Foot Sample Barrel with Plastic Liners
Hole Dia. 3"
Logged by Andrew Smits **Datum**
Surface Elevation 22.42
Northing 33.67353978 **Easting** -78.9212567

PID Reading (ppm)	Sample Number	Depth (ft.)	Sample	
	MYRTL-SO	15		DARK GRAY POORLY GRADED SAND (SP) (5Y 4/1): Medium to Fine Grained Sand, Trace Fines, Non-Plastic, Wet [Note: No DPT Run From 15' to 20'; Descriptions Derived From Auger Cuttings Within This Interval]
		20		LIGHT GRAY POORLY GRADED SAND (SP) (2.5Y 7/1): Medium to Very Fine Grained Sand, Trace Fines, Wet [Note: DPT Run From 20' to 40' Collected From Step-Out Location #2, ~12' NW from Step-Out #1]
				DARK GRAY POORLY GRADED SAND (SP) (10YR 4/1): Coarse to Fine Grained Sand, Trace Fines, Wet
		25		GRAY POORLY GRADED SAND (SP) (N 5/1): Medium to Very Fine Grained Sand, Trace Clay, Trace Fines, Non-Plastic, Wet, Sulphurous Odor ~30'
		30		

BORING_WELL3_AMEC MYRTLE AFB.GPJ NORTON_AFB.GDT 2/5/16

PLATE

amec foster wheeler

Log of Boring MYRTL-FT016P-01
FT016P-01
Myrtle AFB
Myrtle Beach, South Carolina

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
A. Conklin	775290177.003.03008				

Date 7/8/15
Driller Randy Hoffman
Drilling Method Geoprobe DPT (7822DT)
Sampler 5-Foot Sample Barrel with Plastic Liners
Hole Dia. 3"
Logged by Andrew Smits **Datum**
Surface Elevation 22.42
Northing 33.67353978 **Easting** -78.9212567

PID Reading (ppm)	Sample Number	Depth (ft.)	Sample	
	MYRTL-SO	30		
				VERY DARK GRAY CLAYEY SAND (SC) (N 3/): Very Soft, Little to Some Fines, Low-Plasticity, Moist, Shells and Shell Fragments, Sulphurous Odor
				VERY DARK GREENISH GRAY LEAN CLAY (CL) (10Y 3/1): Very Soft, Trace Silt, Medium Plasticity, Moist, Micaceous
		35		DARK GRAY LEAN CLAY (CL) (4/N): Very Soft to Firm, Trace silt, Medium Plasticity, Moist to Dry, Micaceous
				[Note: Monitoring Well Installed at Step-Out Location #3, ~12' NW From Step-Out Location #2]
		40		TD @ 40' bgs

BORING_WELL3_AMEC MYRTLE AFB.GPJ NORTON_AFB.GDT 2/5/16

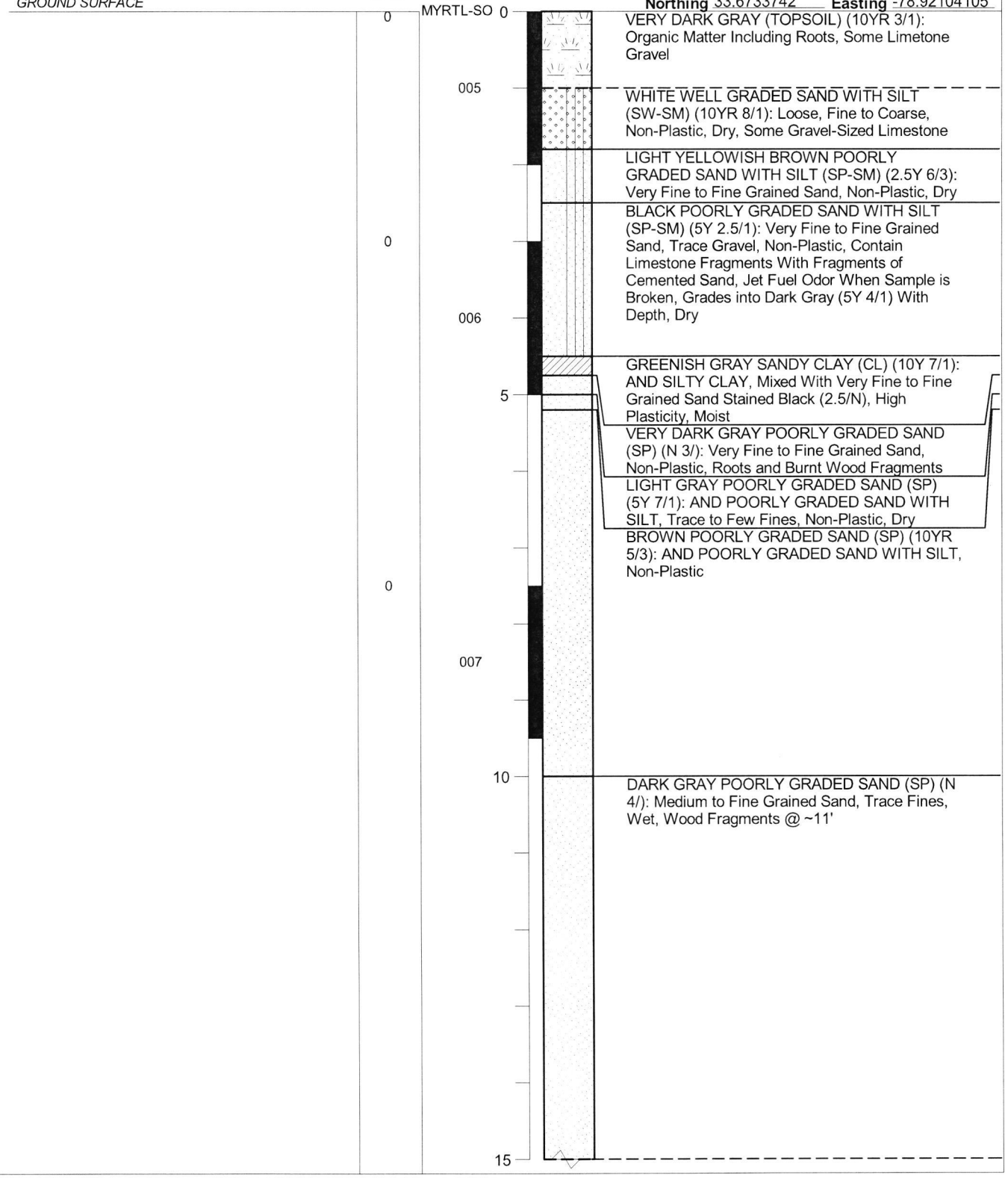
PLATE

amec foster wheeler

Log of Boring MYRTL-FT016P-01
FT016P-01
Myrtle AFB
Myrtle Beach, South Carolina

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
A. Conklin	775290177.003.03008				

Date 7/9/15
Driller Randy Hoffman
Drilling Method Geoprobe DPT (7822DT)
Sampler 5-Foot Sample Barrel with Plastic Liners
Hole Dia. 3"
Logged by Andrew Smits **Datum**
Surface Elevation 23.31
Northing 33.6733742 **Easting** -78.92104105



PLATE

BORING_WELL3_AMEC_MYRTLE AFB.GPJ NORTON_AFB.GDT 2/5/16

amec foster wheeler

Log of Boring MYRTL-FT016P-02
FT016P-02
Myrtle AFB
Myrtle Beach, South Carolina

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
A. Conklin	775290177.003.03008				

Date 7/9/15
Driller Randy Hoffman
Drilling Method Geoprobe DPT (7822DT)
Sampler 5-Foot Sample Barrel with Plastic Liners
Hole Dia. 3"
Logged by Andrew Smits **Datum**
Surface Elevation 23.31
Northing 33.6733742 **Easting** -78.92104105

PID Reading (ppm)	Sample Number	Depth (ft.) Sample	
	MYRTL-SO	15	LIGHT GRAY POORLY GRADED SAND (SP) (N 6/): Medium to Fine Grained Sand, Trace Fines, Non-Plastic
		20	TD @ 20' bgs

BORING_WELL3_AMEC MYRTLE AFB.GPJ NORTON_AFB.GDT 2/5/16

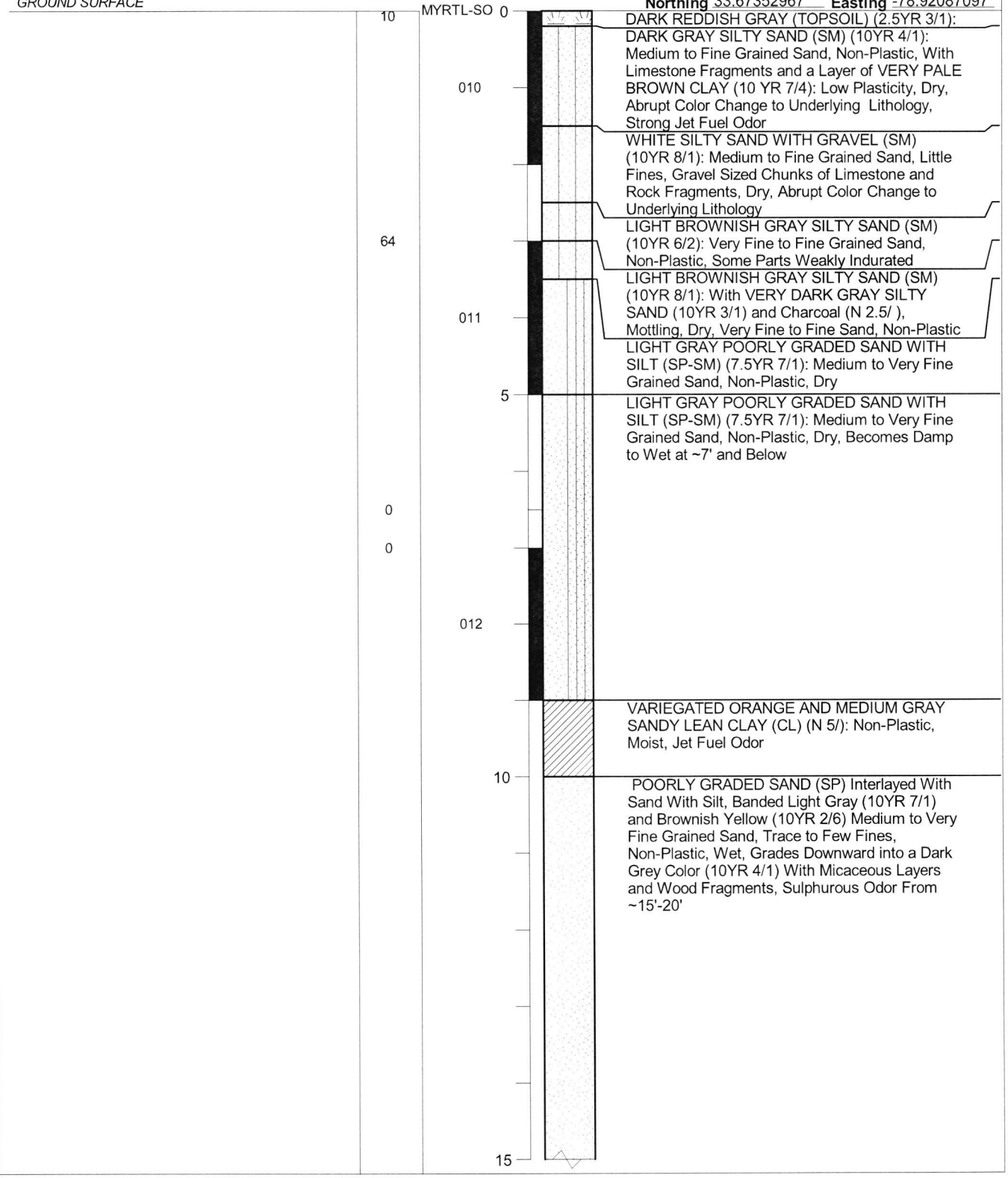
PLATE

amec foster wheeler

Log of Boring MYRTL-FT016P-02
FT016P-02
Myrtle AFB
Myrtle Beach, South Carolina

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
A. Conklin	775290177.003.03008				

Date 7/9/15
Driller Randy Hoffman
Drilling Method Geoprobe DPT (7822DT)
Sampler 5-Foot Sample Barrel with Plastic Liners
Hole Dia. 3"
Logged by Andrew Smits **Datum**
Surface Elevation 24.06
Northing 33.67352967 **Easting** -78.92087097



BORING_WELL3_AMEC MYRTLE AFB.GPJ NORTON_AFB.GDT 2/5/16

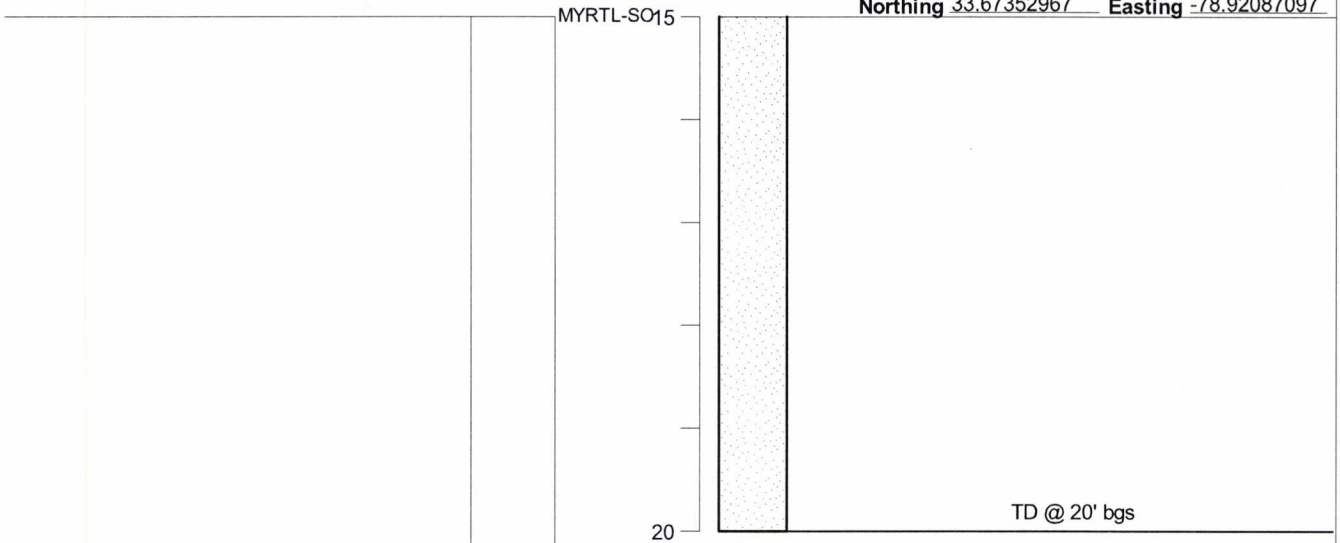
PLATE

amec foster wheeler

Log of Boring MYRTL-FT016P-03
FT016P-03
Myrtle AFB
Myrtle Beach, South Carolina

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
A. Conklin	775290177.003.03008				

Date 7/9/15
Driller Randy Hoffman
Drilling Method Geoprobe DPT (7822DT)
Sampler 5-Foot Sample Barrel with Plastic Liners
Hole Dia. 3"
Logged by Andrew Smits **Datum**
Surface Elevation 24.06
Northing 33.67352967 **Easting** -78.92087097



BORING_WELL3_AMEC MYRTLE AFB.GPJ NORTON_AFB.GDT 2/5/16

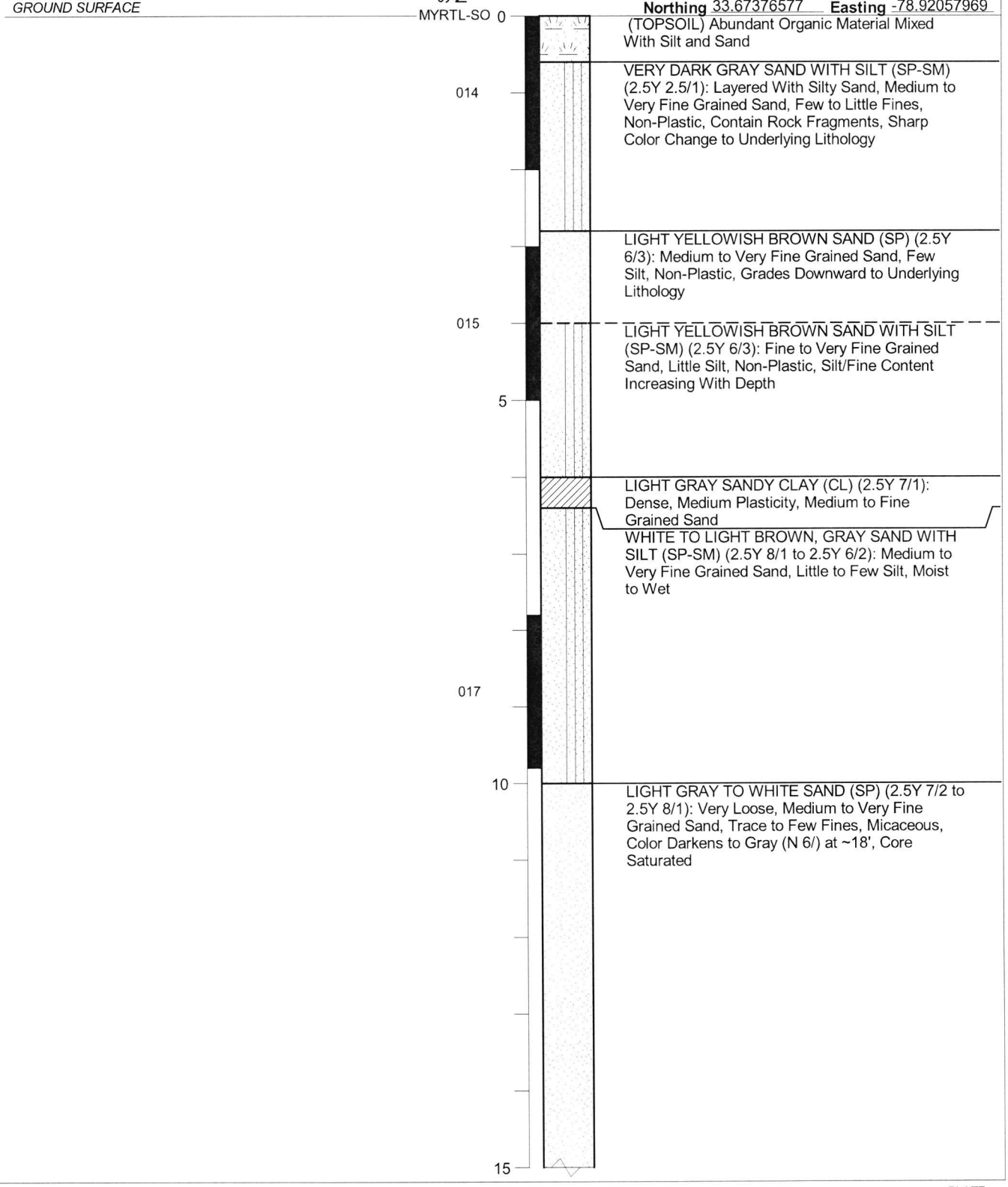
PLATE

amec foster wheeler

Log of Boring MYRTL-FT016P-03
FT016P-03
Myrtle AFB
Myrtle Beach, South Carolina

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
A. Conklin	775290177.003.03008				

Date 7/9/15
Driller Randy Hoffman
Drilling Method Geoprobe DPT (7822DT)
Sampler 5-Foot Sample Barrel with Plastic Liners
Hole Dia. 3"
Logged by Andrew Smits **Datum**
Surface Elevation 23.39
Northing 33.67376577 **Easting** -78.92057969



BORING_WELL3_AMEC_MYRTLE AFB.GPJ_NORTON_AFB.GDT 2/5/16

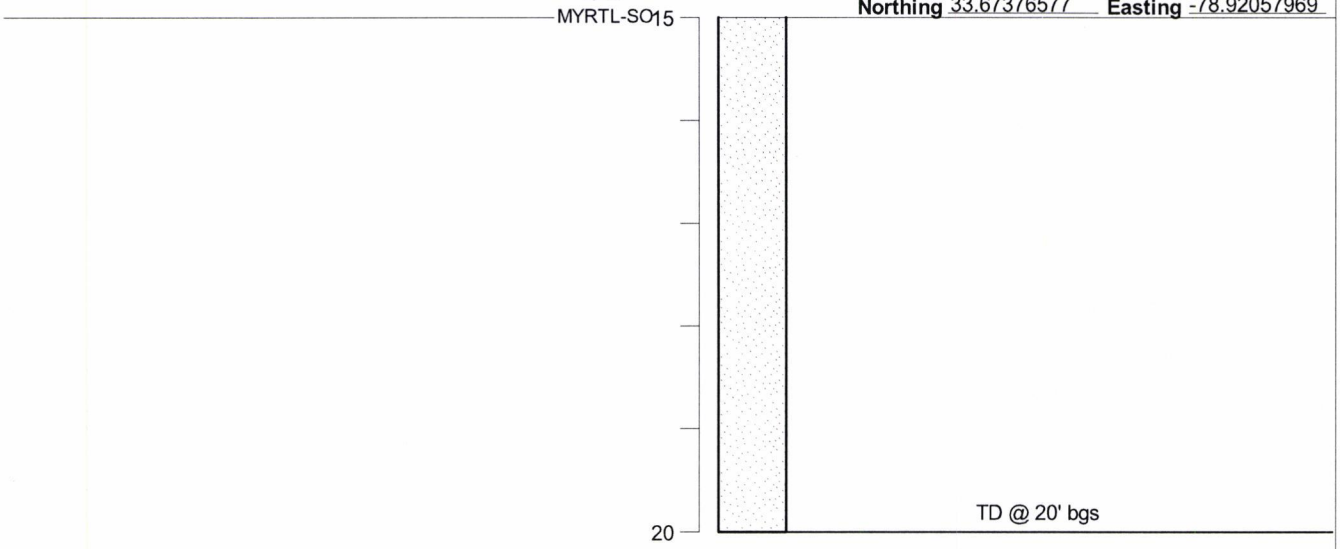
PLATE

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Log of Boring MYRTL-FT016P-04
FT016P-04
Myrtle AFB
Myrtle Beach, South Carolina

DRAWN	JOB NUMBER	CHECKED	CHK'D DATE	APPROVED	APPRV'D DATE
A. Conklin	775290177.003.03008				

Date 7/9/15
Driller Randy Hoffman
Drilling Method Geoprobe DPT (7822DT)
Sampler 5-Foot Sample Barrel with Plastic Liners
Hole Dia. 3"
Logged by Andrew Smits **Datum**
Surface Elevation 23.39
Northing 33.67376577 **Easting** -78.92057969



BORING_WELL3_AMEC MYRTLE AFB.GPJ NORTON_AFB.GDT 2/5/16

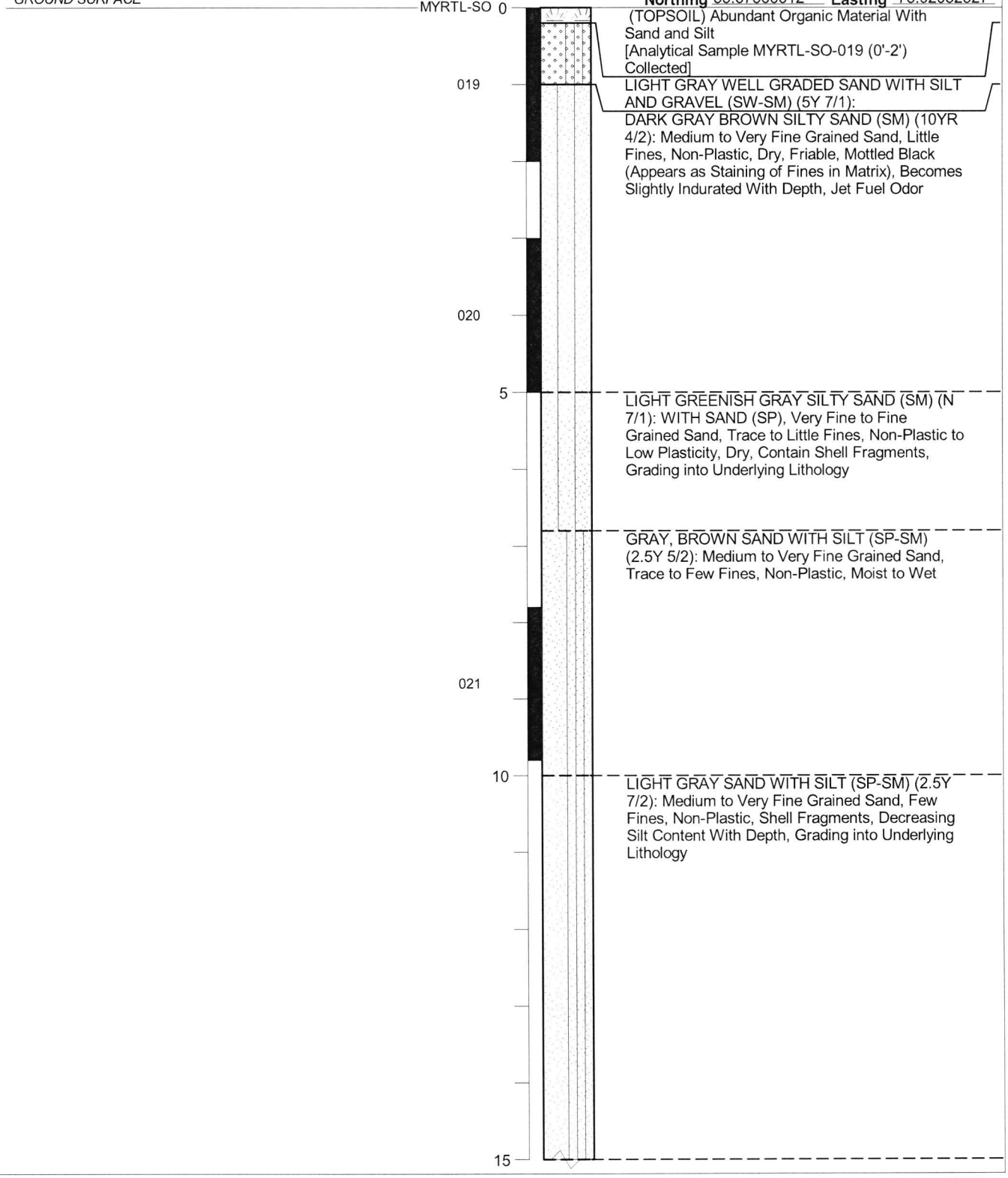
PLATE

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Log of Boring MYRTL-FT016P-04
FT016P-04
Myrtle AFB
Myrtle Beach, South Carolina

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
A. Conklin	775290177.003.03008				

Date 7/9/15
Driller Randy Hoffman
Drilling Method Geoprobe DPT (7822DT)
Sampler 5-Foot Sample Barrel with Plastic Liners
Hole Dia. 3"
Logged by Andrew Smits **Datum**
Surface Elevation 22.02
Northing 33.67366612 **Easting** -78.92032327



PLATE

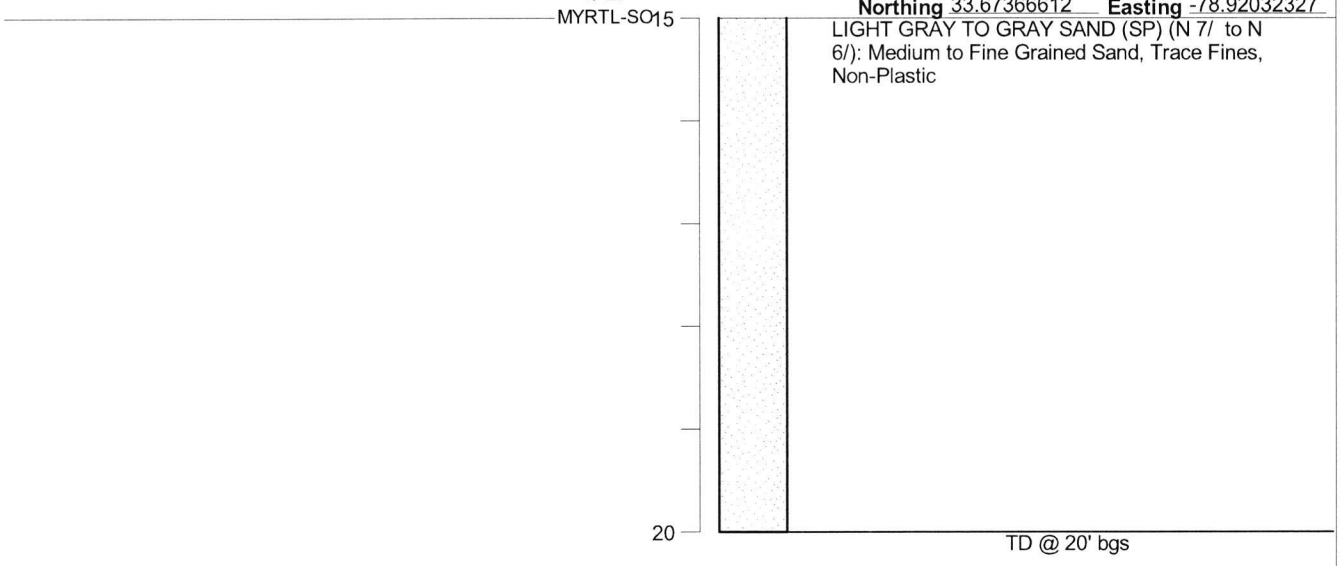
BORING_WELL3_AMEC_MYRTLE AFB.GPJ_NORTON_AFB.GDT 2/5/16

amec foster wheeler

Log of Boring MYRTL-FT016P-05
FT016P-05
Myrtle AFB
Myrtle Beach, South Carolina

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
A. Conklin	775290177.003.03008				

Date 7/9/15
Driller Randy Hoffman
Drilling Method Geoprobe DPT (7822DT)
Sampler 5-Foot Sample Barrel with Plastic Liners
Hole Dia. 3"
Logged by Andrew Smits **Datum**
Surface Elevation 22.02
Northing 33.67366612 **Easting** -78.92032327



BORING_WELL3_AMEC MYRTLE AFB.GPJ NORTON_AFB.GDT 2/5/16

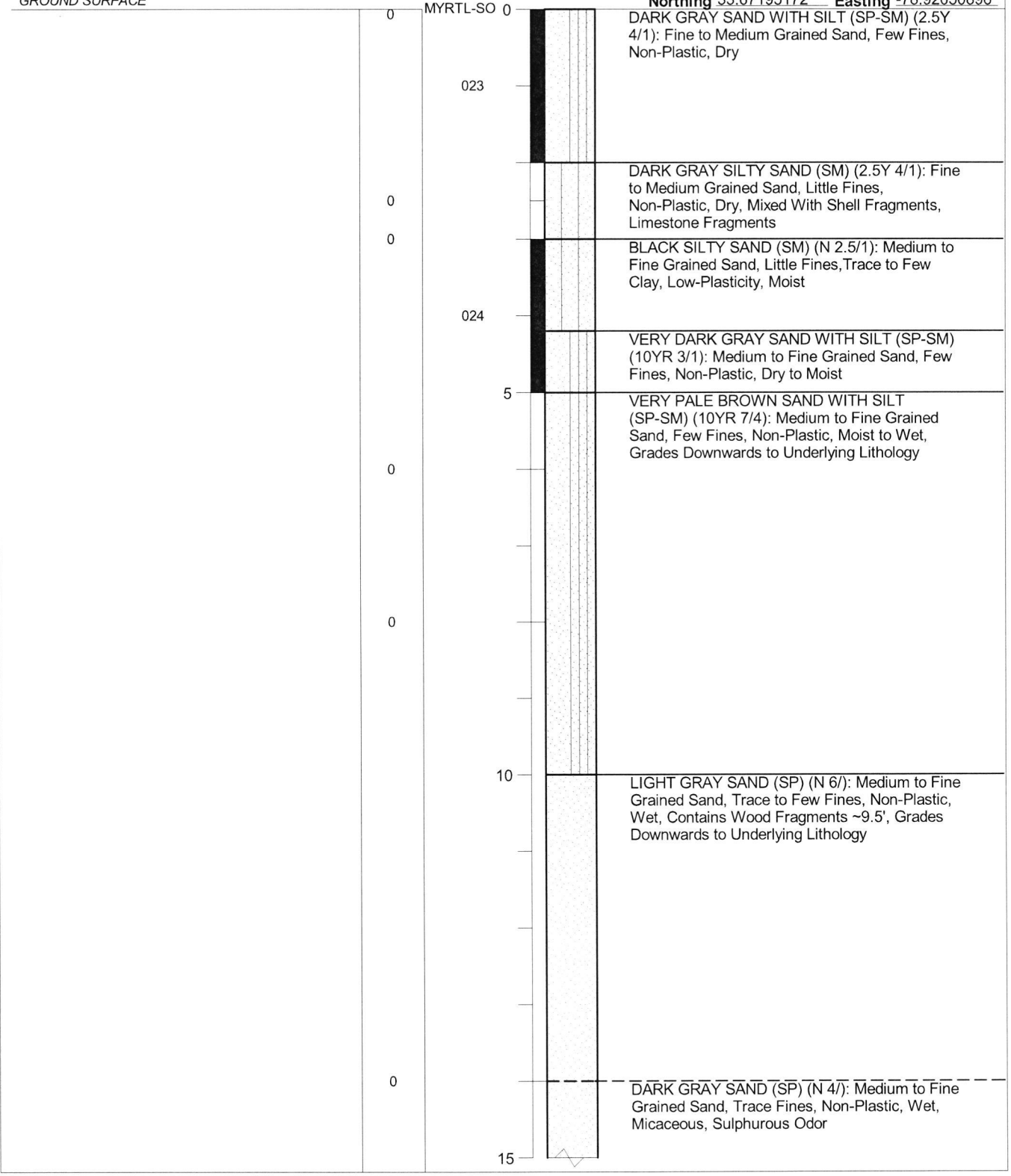
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Log of Boring MYRTL-FT016P-05
FT016P-05
Myrtle AFB
Myrtle Beach, South Carolina

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
A. Conklin	775290177.003.03008				

Date 7/10/15
Driller Randy Hoffman
Drilling Method Geoprobe DPT (7822DT)
Sampler 5-Foot Sample Barrel with Plastic Liners
Hole Dia. 3"
Logged by Andrew Smits **Datum**
Surface Elevation 20.65
Northing 33.67195172 **Easting** -78.92050896



BORING_WELL3_AMEC MYRTLE AFB.GPJ NORTON_AFB.GDT 2/5/16

PLATE

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Log of Boring MYRTL-FT016P-06
FT016P-06
Myrtle AFB
Myrtle Beach, South Carolina

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
A. Conklin	775290177.003.03008				

Date 7/10/15
Driller Randy Hoffman
Drilling Method Geoprobe DPT (7822DT)
Sampler 5-Foot Sample Barrel with Plastic Liners
Hole Dia. 3"
Logged by Andrew Smits **Datum**
Surface Elevation 20.65
Northing 33.67195172 **Easting** -78.92050896

PID Reading (ppm)	Sample Number	Depth (ft.) Sample	
	MYRTL-SO	15	DARK GRAY SAND (SP) (N 4/): Medium to Very Fine Grained Sand, Trace Fines, Non-Plastic, Wet, Contains Wood Fragments ~16.5', Sulphurous Odor ~17'
0			
		20	TD @ 20' bgs

BORING_WELL3_AMEC MYRTLE AFB.GPJ NORTON_AFB.GDT 2/5/16

PLATE

amec foster wheeler

Log of Boring MYRTL-FT016P-06
FT016P-06
Myrtle AFB
Myrtle Beach, South Carolina

DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
A. Conklin	775290177.003.03008				

Date 7/10/15
Driller Randy Hoffman
Drilling Method Hand Auger
Sampler Hand Auger Grab Sample
Hole Dia. 3"
Logged by Andrew Smits **Datum**
Surface Elevation N/A
Northing 33.67193894 **Easting** -78.9204424

GROUND SURFACE	PID Reading (ppm)	Sample Number	Depth (ft.)	Sample	
	0	MYRTL-SO 027	0		BLACK ORGANIC SOIL WITH SAND (TOPSOIL) (N 2.5/): Very Soft, Little Medium to Very Fine Grained Sand, Trace Gravel, Moist, Contains Roots & Organic Debris [Water Encountered at 1.2']
					TD @ 1.2' bgs

BORING_WELL3_AMEC MYRTLE AFB.GPJ NORTON_AFB.GDT 2/5/16

PLATE

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Log of Boring MYRTL-FT016P-07
FT016P-07
Myrtle AFB
Myrtle Beach, South Carolina

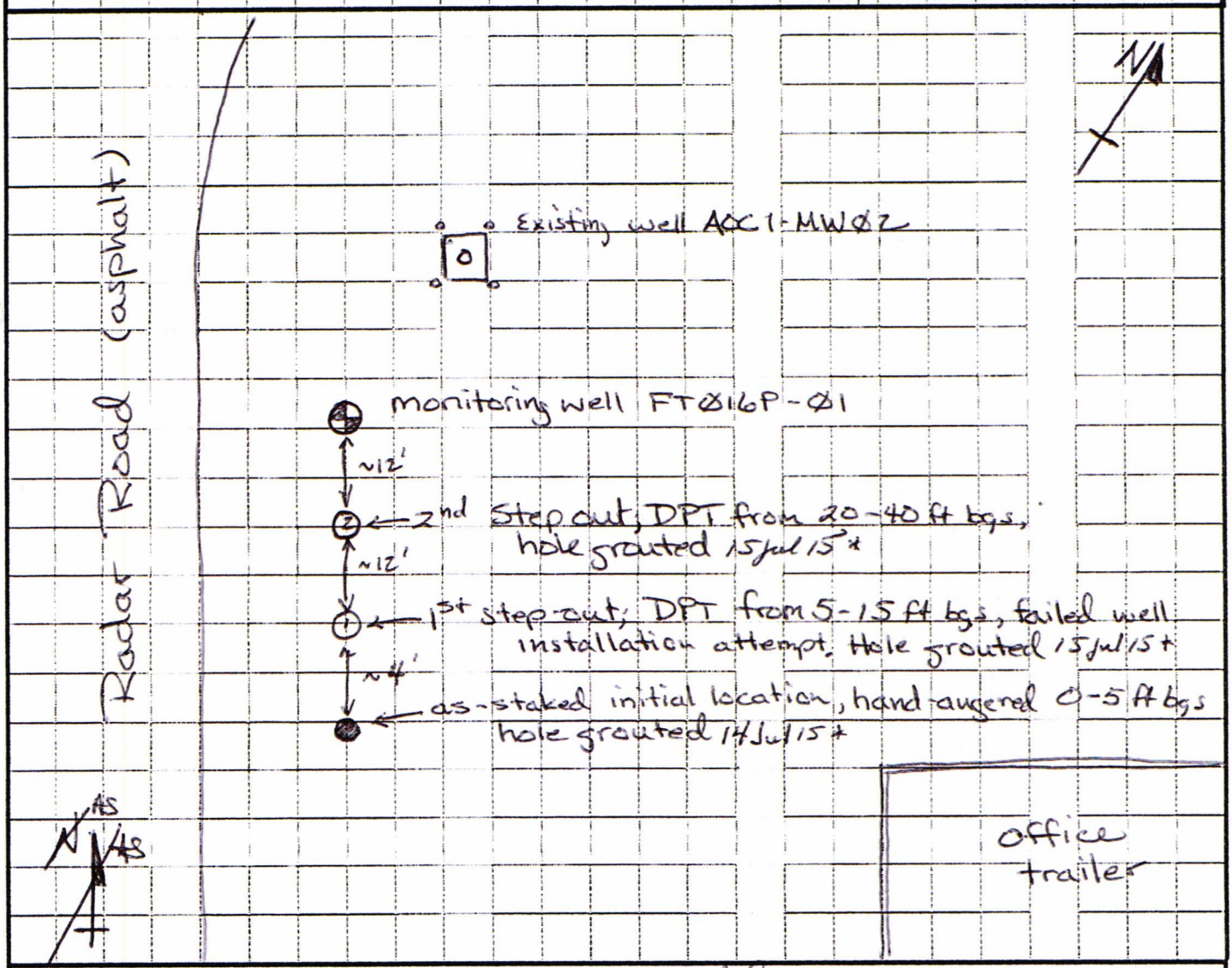
DRAWN	JOB NUMBER	CHECKED	CHCK'D DATE	APPROVED	APPRV'D DATE
A. Conklin	775290177.003.03008				

Drilling Log (Page 1)
Rev. 1. Date: 07/21/2014

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DRILLING LOG

LOCATION ID: FTØ16P-Ø1	INSTALLATION/SITE: Fmr Myrtle Beach AEB / FTØ16P
DRILL SUBCONTRACTOR: SAEDACCO	SHEET 1 of 4
PROJECT / PROJECT NUMBER: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177 775290177.	DATE STARTED: 8 Jul 2015 / DATE COMPLETED: 9 Jul 2015
NAME OF DRILLER(S): Randy Hoffman	SURFACE ELEVATION: 22.42 ft msl * surveyed 10/12/15
SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Hand auger (4" bucket) 0-5 ft bgs; Geoprobe DPT (7822 DT); using 5-ft sample barrel w/ plastic liners	~~SURFACE ELEVATION~~ Well pilot drilled w/ 6 7/8 in. augers; TOTAL DEPTH OF BOREHOLE: 40 ft bgs by DPT, 32 ft by HSA; DEPTH OF GROUNDWATER ENCOUNTERED: 9.5 ft bgs; OVERBURDEN THICKNESS: >40 ft; DEPTH DRILLED INTO ROCK: 0 ft
DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: ~~9.5 ft bgs~~ AS 9.06 ftbgs 24 Jul 15	OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A
DISPOSITION OF BORE HOLE: well installed 9 Jul 2015	BACKFILLED: — / MONITORING WELL: yes / OTHER (SPECIFY): → initial borehole and Step-outs 1-2 all grouted to surface
LOCATION SKETCH/COMMENTS	SCALE: NOT TO SCALE



Name/Signature: Andrew Smits Date: 9 Jul 15 * ~~AS~~ 11/1/15

QAQC'd by: Date:

DRILLING LOG (Page 2)

INSTALLATION/SITE: Fmr Myrtle Beach AFB, FT016P
LOCATION ID: FT016P-01
PROJECT / PROJECT NUMBER: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766
Task Order 0177 / 775290177. 0003. 300B
SHEET 2 of 4

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	HNU SCREENING RESULTS (PPM) (d)	PUSH / SAMPLE INTERVAL (e)	ANALYTICAL SAMPLE NO (f)	USCS (g)	REMARKS (h)
	0	Clayey Sand with Gravel v. dk grey brown (2.5Y 3/2) dry, Vf-c sand, little fines, few clay, LP-NP, gravel and limestone fragments, few organic debris, interlayered with well-graded Sand, black (10YR 2/1) moist C-Vf sand, NP, few fines.	0.0	Hand auger to 5 ft bgs	MYRTL 50-001 0-2 ft	SC / SW	
	2.0					SP + SM	
	3.0				MYRTL 50-002 3-5 ft	SP+ SP-SC	
	3.3	Poorly graded Sand mixed with Silty Sand, dry v. dk gray (10YR 3/1) NP-LP, m-VF sand tr. to few clay, little fines.					
	4		0.0			SP	
	5.0	P.G. Sand mixed with Sand with clay dark gray (5YR 4/1) moist, tr. to little fines, NP-LP.		DPT 01 5-10 ft bgs 5ft/5ft		SP-SM	DPT from 5 to 15 pushed at step-out location 1, ~4 ft NW from initial location.
	6						
	8.0	Poorly-graded Sand grayish brown (10YR 5/2), damp-dry, m-VF sand, tr. fines, NP.			MYRTL 50-003 8-9.5 ft	....	gradational
		Sand with Silt, v. dark grayish brown (10YR 3/2), dry-damp m-vf sand, few fines, NP.	0.0			SP-SM + SM	moist conds. in core ▽ ▼
	10.0	Sand w/ Silt interbedded with silty sand. Moist dark grayish brown (10YR 4/2), m-Vf sand, few to little fines, NP.				SM/SP	
	12	P.G. Sand, v. dk gray. brown (2.5Y 3/2), wet, C-F sand, tr. fines, NP. Shell frags.	0.0	DPT 02 10-15 ft bgs 4ft/5ft		SP	
	14	P.G. grading into Sand, dk gray (5Y 4/1) wet, m-VF sand, NP.				ND/Refusal	
	16	(See below)				SP?	NO DPT collected from 15-20 ft bgs.

NAME/SIGNATURE: Andrew Smits
DATE: 6 Jul 15
QAQC'd by:
DATE:

amec DRILLING LOG (Page 2)

INSTALLATION/SITE: Fmr Myrtle Beach AFB, FT016P

LOCATION ID: FT016P-01

PROJECT / PROJECT NUMBER: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766
Task Order 0177 / 775290177. 0003, 300B

SHEET 3 of SHEETS 4

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	HNU SCREENING RESULTS (PPM) (d)	PUSH / SAMPLE INTERVAL (e)	ANALYTICAL SAMPLE NO (f)	USCS (g)	REMARKS (h)
	16						No DPT samples collected from 15-20 ft bgs.
	AB	Poorly graded Sand dark gray (5Y 4/1) wet, NP, m-F sand tr. fines					Descriptions from auger cuttings for material b/w 15-20 ft bgs
	18					SP?	
	20.0						DPT from 20-40 ft collected from step-out location 2, ~12 ft NW from step-out 1.
		Poorly graded Sand light gray (2.5Y 7/1) wet, NP, m-VF sand, tr. fines		DPT Ø3 20-25 ft bgs 5ft/5ft		SP	
	22						
	22.5	Poorly Graded Sand dark gray (10YR 4/1), wet, NP, c-f sand, tr. fines					
	AB						
	24						
	25.0	Poorly graded Sand, gray (N 5/1), wet, NP, m-VF sand, tr. fines, tr. clay		DPT Ø4 25-30 ft bgs 5ft/5ft			
	26						
	25.5 AB						
	28						
	30.0	Poorly graded Sand gray AB (as above)					Sulphurous odor
	31.0	Clayey Sand V. dark gray (N 3/) moist, v. soft, LP		DPT Ø5 30-35 ft bgs		SC	Sulphurous odor
	32						

NAME/SIGNATURE: Andrew Smits Carchen

DATE: 9-Jul-15

QAQC'd by:

DATE:

Drilling Log (Page 2)
Rev. 1, Date: 07/21/2014

amec DRILLING LOG (Page 2)

INSTALLATION/SITE: Fmr Myrtle Beach AFB, FT016P

LOCATION ID: FT016P-01

PROJECT / PROJECT NUMBER: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766
Task Order 0177 / 775290177. 0003. 300B

SHEET 4 of 4 SHEETS

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	HNU SCREENING RESULTS (PPM) (d)	PUSH / SAMPLE INTERVAL (e)	ANALYTICAL SAMPLE NO (f)	USCS (g)	REMARKS (h)
	32	Clayey Sand (cont'd) little to some fines, shells + shell fragments		DPT Ø5 30-35 ft bgs 5ft/5ft		SC	sulphurous odor
	33.5						
	34	Lean Clay V. dark greenish gray (10 Y 3/1) moist, V. soft ~~LP~~ MP, tr. silt micaceous					
	35.0						
	36	Lean Clay dark gray (4/N) moist – dry, v. soft to firm, MP, trace silt micaceous		DPT Ø6 35-40 ft bgs 5ft/5ft		CL	
	38						
	40	End of sampling		TD @ 40 ft bgs			As-drilled location for monitoring well is at step-out location no. 3, ~12 ft northwest from step out loc. 2

NAME/SIGNATURE: Andrew Smits

DATE: 9-Jul-15

QAQC'd by:

DATE:

Drilling Log (Page 1)
Rev. 1. Date: 07/21/2014

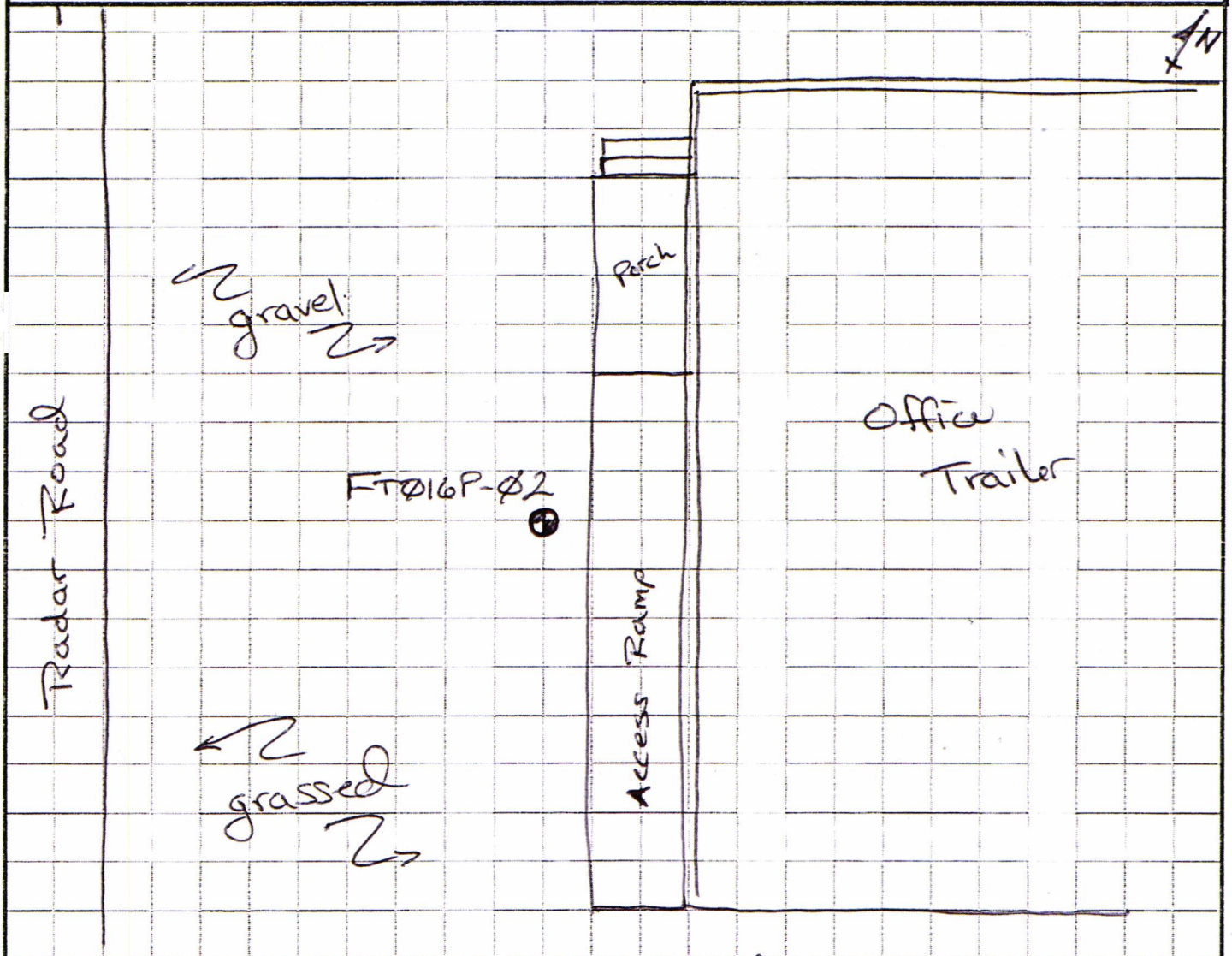
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DRILLING LOG

LOCATION ID: FT016P-02	INSTALLATION/SITE: Fmr Myrtle Beach AFB / FT016P
DRILL SUBCONTRACTOR: SAEDACCO	SHEET 1 of SHEETS 3
PROJECT / PROJECT NUMBER: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177 775290177. 0003.0300B	DATE STARTED: 9 Jul 2015 / DATE COMPLETED:
NAME OF DRILLER(S): Randy Hoffman	SURFACE ELEVATION: 23.31 ft msl *Surveyed 10/12/15
SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Hand auger (4") to 5 ft bgs. GeoProbe Dual-Tube sampler with 1 1/8" liners 2 1/4" rods	SURFACE ELEVATION
	TOTAL DEPTH OF BOREHOLE: ~~20~~ 17 ft bgs / DEPTH OF GROUNDWATER ENCOUNTERED: ~9 ft bgs
	OVERBURDEN THICKNESS: >17 ft / DEPTH DRILLED INTO ROCK: N/A
DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

DISPOSITION OF BORE HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)
Well installed	—	yes	

LOCATION SKETCH/COMMENTS — SCALE: NOT TO SCALE



Name/Signature: Andrew Smith Andrew Smith Date: 9 Jul 15 2 Aug 15 *AS ~~12 Oct 15~~

QAQC'd by: Date:

Drilling Log (Page 2)
Rev. 1, Date: 07/21/2014

DRILLING LOG (Page 2)

INSTALLATION/SITE: Fmr Myrtle Beach AFB, FT016P
LOCATION ID: FT016P-02
PROJECT / PROJECT NUMBER: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766
Task Order 0177 / 775290177. 0003, 300B
SHEET 2 of SHEETS 3

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	HNU SCREENING RESULTS (PPM) (d)	PUSH / SAMPLE INTERVAL (e)	ANALYTICAL SAMPLE NO (f)	USCS (g)	REMARKS (h)
	1.0	TOPSOIL v. dk. grey (10 YR 3/1) roots, organic matter, with limestone gravel.			MYRTL SO-005 0-2 ft	SW-SM	
	1.8	Well-graded Sand with Silt white (10 YR 8/1), dry loose, F-C sand, NP with gravel-sized limestone.	0.0				
	2	Poorly graded sand with silt, L. Yellow Brown (2.5 Y 6/3), VF-F sand, NP, dry				SP-SM	
	2.5	Poorly graded sand with silt; black (5 Y 2.5/1), VF-F sand, tr. gravel, NP, with limestone fragments, with fragments of cemented sand, black, jet fuel odor when broken. Grades in color downward into dk gray (5 Y 4/1). dry			MYRTL SO-006 3-5 ft		
	4		0.0			CH	similar in texture to bentonite,
	4.5					SP	jet fuel odor
	4.75						
	5.2						appearance of "beach sand"
	6	Sandy clay + silty Clay (10 Y 7/1), moist, HP mixed with VF-F sand stained black 2.5/N				SP + SP-SM	core moist ▽
		Poorly graded sand, v. dk grey (N 3/) vf-f sand, NP, roots, burnt wood frags.		DPT 01 5-10 ft bgs	MYRTL SO-007 7.5-9.5 ft		
	8	Poorly graded sand and PG sand with Silt light grey (5 Y 7/1), dry tr.-few fines NP	0.0	4.5 ft / 5 ft			water meas in borehole 9 Jul 15 ▼
	10	Poorly graded Sand and P.G. sand with silt brown (10 YR 5/3), NP				No Rec.	
		Poorly graded sand dark grey (N 4/) wet, tr. fines, M-F sand		DPT 02 10-15 ft bgs		SP	wood fragments
	12						
	14			3.8 ft / 5 ft		No Rec.	
		Poorly graded Sand lt. gray (N 6/), M-F sand NP, tr. fines		DPT 03		SP	

NAME/SIGNATURE: Andrew Smits — DATE:
QAQC'd by: — DATE:

Drilling Log (Page 2)
Rev. 1, Date: 07/21/2014

amec DRILLING LOG (Page 2)

INSTALLATION/SITE: Fmr Myrtle Beach AFB, FT016P

LOCATION ID: FT016P-02

PROJECT / PROJECT NUMBER: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766
Task Order 0177 / 775290177. 0003, 3008

SHEET 3 of SHEETS 3

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	HNU SCREENING RESULTS (PPM) (d)	PUSH / SAMPLE INTERVAL (e)	ANALYTICAL SAMPLE NO (f)	USCS (g)	REMARKS (h)
	16	as above		DPT Ø3 15-20 ft bgs		SP	
	18			5ft / 5ft			
	20			TD @ 20 ft bgs			
	22						
	24						
	26						
	28						
	30						
	32						

NAME/SIGNATURE: Andrew Smith

DATE:

QAQC'd by:

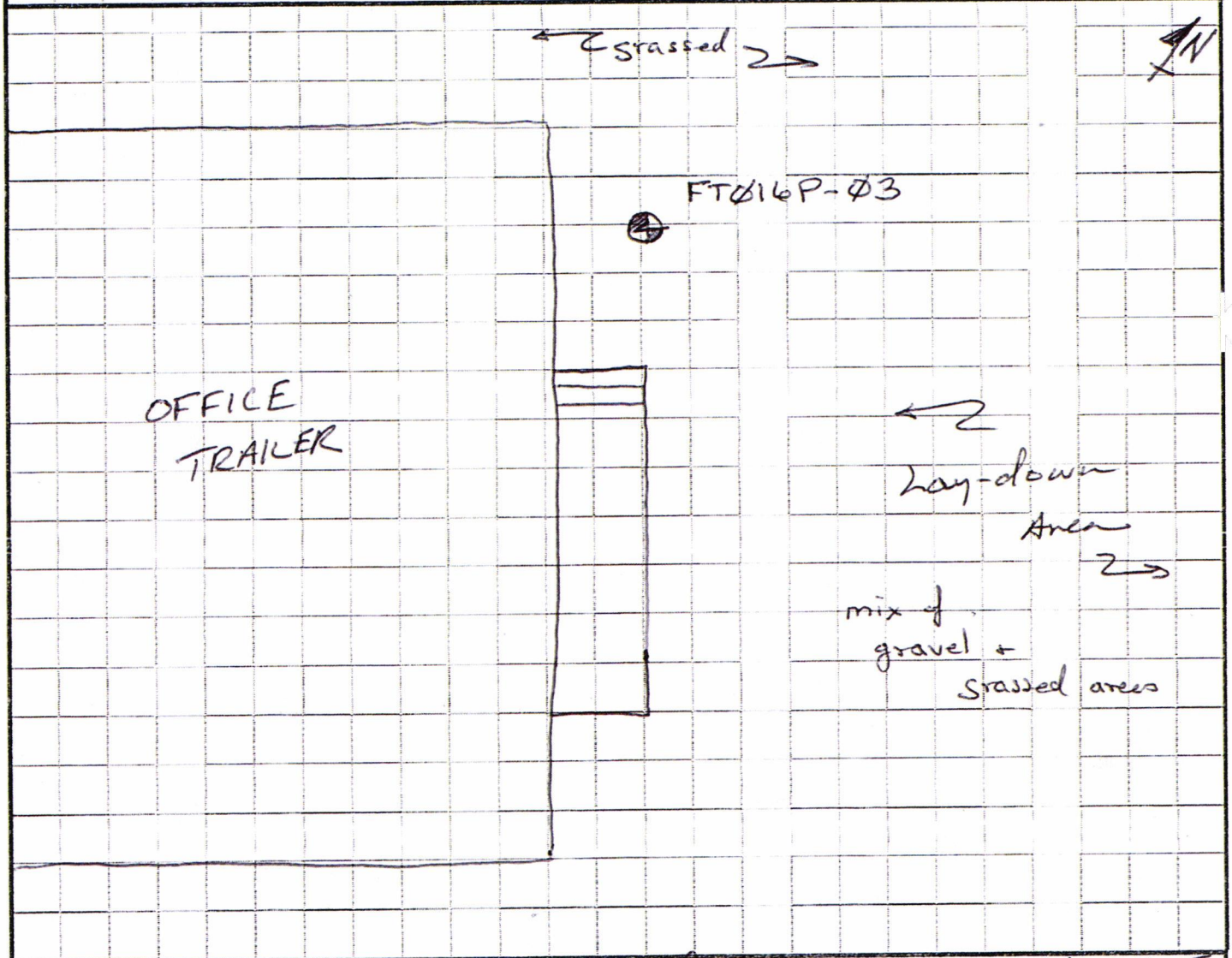
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Drilling Log (Page 1)
Rev. 1. Date: 07/21/2014

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DRILLING LOG

LOCATION ID: FT016P03	INSTALLATION/SITE: Fmr Myrtle Beach AFB / FT016P
DRILL SUBCONTRACTOR: SAEDACCO	SHEET: 1 of 3
PROJECT / PROJECT NUMBER: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177 775290177.0003.03008	DATE STARTED: 9 Jul 2015
	DATE COMPLETED: 10 Jul 2015 ~~9 Jul 2015~~ AS
NAME OF DRILLER(S): Randy Hoffman	SURFACE ELEVATION: 24.06 ft msl* surveyed 12 Oct 15
SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Hand auger (4" bucket); Geoprobe DPT (7822DT); 5-ft sample barrel w/ plastic liners	~~SURFACE ELEVATION~~ well pilot drilled using 6 7/8-in augers
	TOTAL DEPTH OF BOREHOLE: 20 ft bgs
	DEPTH OF GROUNDWATER ENCOUNTERED: 7-11 ft bgs
	OVERBURDEN THICKNESS: >20 ft
	DEPTH DRILLED INTO ROCK: N/A
DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 10.71 ft bgs on 16 Jul 2015	OTHER WATER LEVEL MEASUREMENTS (SPECIFY): —
DISPOSITION OF BORE HOLE: well installed 13 Jul 2015	BACKFILLED: —
MONITORING WELL: yes	OTHER (SPECIFY): —
LOCATION SKETCH/COMMENTS	SCALE: NOT TO SCALE



Name/Signature: Andrew Smits

Date: 10 Jul 2015 *AS 2 Nov 15

QAQC'd by:

Date:

DRILLING LOG (Page 2)

INSTALLATION/SITE: Fmr Myrtle Beach AFB, FT016P
LOCATION ID: FT016P-003
PROJECT / PROJECT NUMBER: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766
Task Order 0177 / 775290177. 0003. 300B
SHEET 2 of SHEETS 3

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	HNU SCREENING RESULTS (PPM) (d)	PUSH / SAMPLE INTERVAL (e)	ANALYTICAL SAMPLE NO (f)	USCS (g)	REMARKS (h)
	0.2	TOPSOIL dark reddish grey 2.5YR 3/1		Hand auger 0-5 ft bgs 9-Jul-2015	MYRTL SO-010 0-2 ft	T.S.	
	1.5	Silty Sand, dark gray (10YR 4/1), M-F sand, NP, with L.Stone frags and layer of clay.	10			SM / CL	Strong jet fuel odor
	2	Very pale brown (10YR 7/4), LP. dry abrupt color change to underlying lith.				SM	
	2.5	Silty sand with gravel White (10YR 8/1), M-F Sand, little fines, gravel sized chunks of limestone and rock fragments, dry				SM	
	4	Abrupt color change to underlying lithe	64		MYRTL SO-011 3-5 ft	SM	
	5.0	Silty Sand light brownish gray (10YR 6/2) VF-F sand, NP, some parts weakly indurated				SP-SM	
	6	As above, with mottled colors v. dk grey (10YR 3/1) and (N 2.5/) with charcoal dry	0.0	DPT 01 5-10 ft bgs 10 Jul 2015			"No hammer" for entire push on DPT 01.
		Sand with silt, light grey (7.5YR 7/1) M-VF sand NP, dry.			MYRTL SO-012 7-9 ft	SP-SM	core wet ▽
	8	As above, becoming damp to wet at 7 ft and below					
	9.0	Sandy clay, variegated orange and med. grey (N 5/), MP, moist		4.5ft / 5ft		CL / No Rec.	Jet fuel odor
	10.0	Sand interlayered with Sand with Silt		DPT 02 10-15 ft bgs 10/11/2015			core sat. ▽
	12	Banded light grey (10YR 7/1) and brownish yellow (10YR 6/6) M-VF sand, tr. to few fines, NP, wet.				SP + SP-SM	
		Grades downward into					
	14	dark grey color (10YR 4/1) with micaceous layers and wood fragments		4ft/5ft		No Rec.	
	16			DPT 03		SP + SP-SM	Sulphurous odor

NAME/SIGNATURE: Andrew Smits
DATE: 10 Jul 2015
QAQC'd by:
DATE:

amec DRILLING LOG (Page 2)

INSTALLATION/SITE: Fmr Myrtle Beach AFB, FT016P

LOCATION ID: FT016P-03

PROJECT / PROJECT NUMBER: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766
Task Order 0177 / 775290177. 0003, 300B

SHEET 3 of SHEETS 3

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	HNU SCREENING RESULTS (PPM) (d)	PUSH / SAMPLE INTERVAL (e)	ANALYTICAL SAMPLE NO (f)	USCS (g)	REMARKS (h)
	16	As above		DPT 03 15-20 ft bgs 10-Jul-2015		SP + SP-SM	sulphurous odor
	18			5ft/5ft			
	20			TD @ 20ft bgs			
	22						
	24						
	26						
	28						
	30						
	32						

NAME/SIGNATURE: Andrew Smits

DATE: 10 Jul 2015

QAQC'd by:

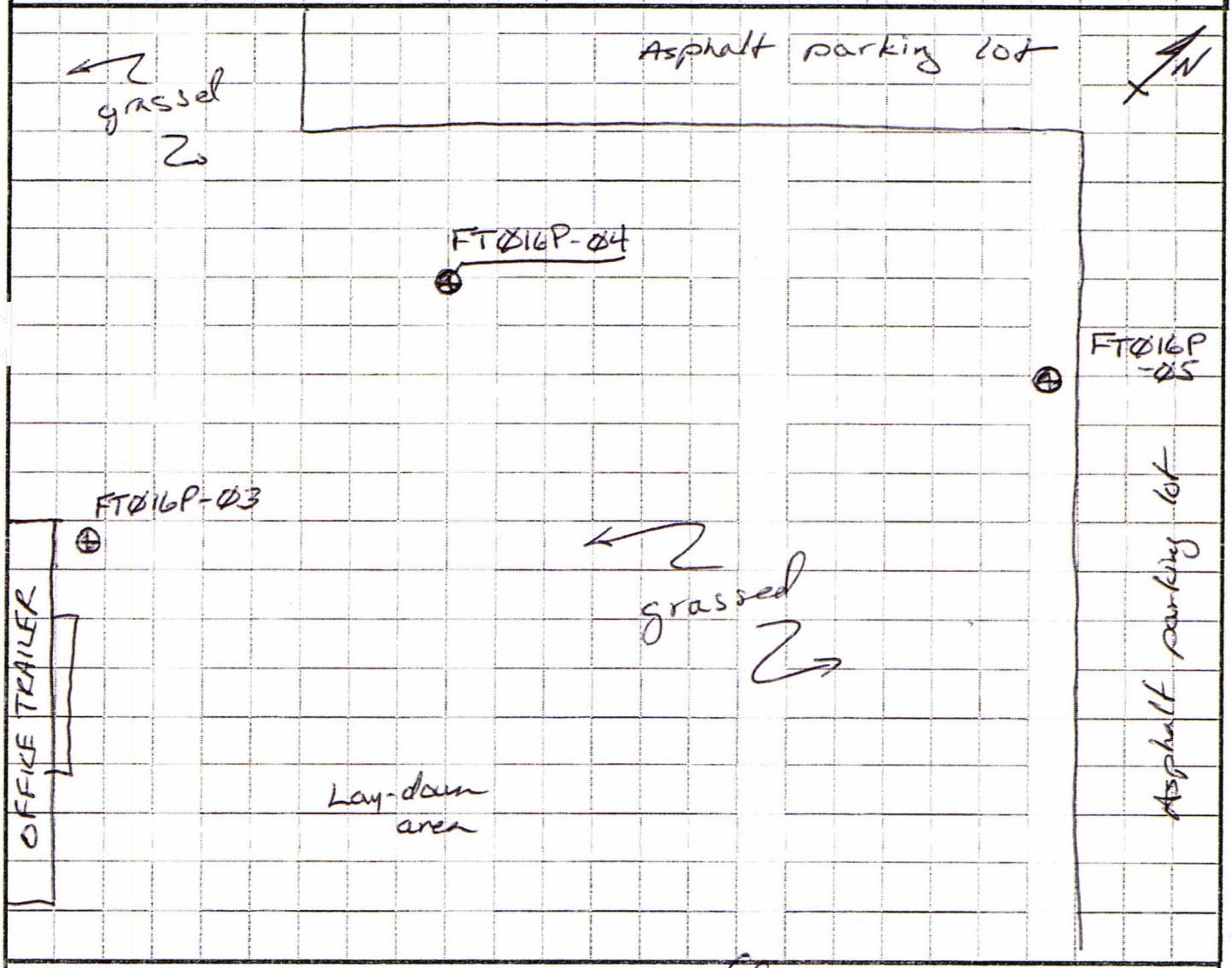
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Drilling Log (Page 1)
Rev. 1. Date: 07/21/2014

amec

DRILLING LOG

LOCATION ID: FTØ16P-Ø4	INSTALLATION/SITE: Fmr Myrtle Beach AFB / FTØ16P
DRILL SUBCONTRACTOR: SAEDACCO	SHEET: 1 of SHEETS: 3
PROJECT / PROJECT NUMBER: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177 775290177. 0003.0300B	DATE STARTED: 9 Jul 2015 / DATE COMPLETED:
NAME OF DRILLER(S): Randy Hoffman	SURFACE ELEVATION: 23.39 ft msl * surveyed 12 Oct 15
SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Hand auger (4" bucket) Geoprobe DPT (7822DT) using 5-ft sampler barrel w/ plastic liners	SURFACE ELEVATION: well pilot drilled w/ 6 7/8 in augers
	TOTAL DEPTH OF BOREHOLE: 20 ft bgs / DEPTH OF GROUNDWATER ENCOUNTERED: 7.5-10.5 ft bgs
	OVERBURDEN THICKNESS: >20 ft / DEPTH DRILLED INTO ROCK: N/A
DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 9.82 ft bgs on 16 Jul 2015	OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 9.96 ft bgs on 24 Jul 15
DISPOSITION OF BORE HOLE: well installed 13 Jul 2015 / BACKFILLED: — / MONITORING WELL: Yes / OTHER (SPECIFY): —	
LOCATION SKETCH/COMMENTS	SCALE: NOT TO SCALE



Name/Signature: Andrew Smits Date: 10 Jul 15

QAQC'd by: Date:

DRILLING LOG (Page 2)

INSTALLATION/SITE: Fmr Myrtle Beach AFB, FTØ16P
LOCATION ID: FTØ16P-Ø4
PROJECT / PROJECT NUMBER: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766
Task Order 0177 / 775290177. ØØØ3. 3ØØB
SHEET 2 of 3

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	HNU SCREENING RESULTS (PPM) (d)	PUSH / SAMPLE INTERVAL (e)	ANALYTICAL SAMPLE NO (f)	USCS (g)	REMARKS (h)
	0.6	TOPSOIL abundant organic material mixed with silt + sand		Hand Auger 0-5 ft bgs 9 Jul 2015	MYRTL SO-Ø14 Ø-2 ft	SP-SM + SM	
	2	Sand with Silt layered with silty sand, V. dk grey (2.5 Y 2.5/1) M-VF sand, few to little fines, NP. with rock fragments. Sharp color change to underlying					
	2.8	Sand light yellowish brown (2.5 Y 6/3) M-VF sand few silt NP			MYRTL SO-Ø15 3-5 ft	SP	
	4	... grading downward into				....	
		Sand with Silt light yellowish brown (2.5 Y 6/3) F-VF sand, little silt. NP. silt/fines content increasing downward				SP-SM	
	6.0			DPT Ø1 5-10 ft bgs, 10 Jul 2015		CL	
	6.4	Sandy clay light grey (2.5 Y 7/1) dense MP M-F sand					
	8	Sand with silt white (2.5 Y 8/1) to light brown. grey (2.5 Y 6/2) M-VF sand, little-few silt moist to wet			MYRTL SO-Ø17 7.8-9.8 ft	SP-SM	core moist ▽
				4.5 ft / 5 ft			~~Pict~~ Hole caved to 9.5 ft 1530 10 Jul 15
	10.0						
		Sand light grey (2.5 Y 7/2) to white (2.5 Y 8/1) V. loose, M-VF sand tr. - few fines, micaceous color becomes darker to grey (N 6/) at approx 18 ft bgs		DPT Ø2 10-15 ft bgs 10 Jul 2015		SP	core wet ▽
	12						
	14			4 ft / 5 ft			
				DPT Ø3		SP	
	16						

NAME/SIGNATURE: Andrew Smits
DATE: 10 Jul 15
QAQC'd by:
DATE:

Drilling Log (Page 2)
Rev. 1, Date: 07/21/2014

amec DRILLING LOG (Page 2)

INSTALLATION/SITE: Fmr Myrtle Beach AFB, FT016P

LOCATION ID: FT016P-04

PROJECT / PROJECT NUMBER: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766
Task Order 0177 / 775290177. 0003, 300B

SHEET 3 of 3 SHEETS

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	HNU SCREENING RESULTS (PPM) (d)	PUSH / SAMPLE INTERVAL (e)	ANALYTICAL SAMPLE NO (f)	USCS (g)	REMARKS (h)
	16	As above		DPT Ø3 15-20 ft bgs 10 Jul 15			Core Saturated
	18	becomes grey (N 6/)		5ft/5ft			
	20			TD@ 20ft bgs			
	22						
	24						
	26						
	28						
	30						
	32						

NAME/SIGNATURE: Andrew Smits

DATE: 10 Jul 15

QAQC'd by:

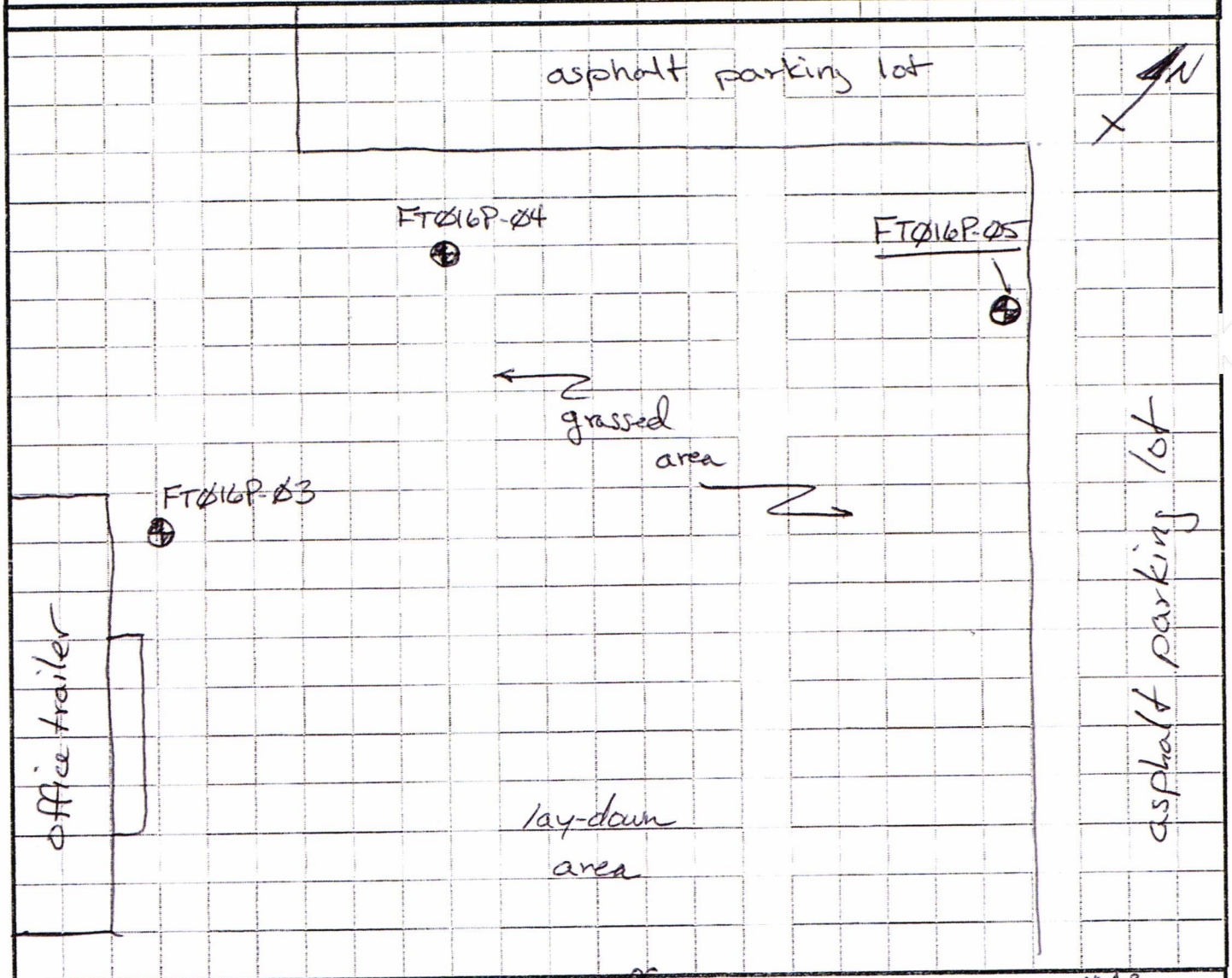
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Rev. 1. Date: 07/21/2014

amec

DRILLING LOG

LOCATION ID: FT016P-05	INSTALLATION/SITE: Fmr Myrtle Beach AFB / FT016P
DRILL SUBCONTRACTOR: SAEDACCO	SHEET: 1 of SHEETS: 3
PROJECT / PROJECT NUMBER: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177 775290177.0003.03008	DATE STARTED: 9 Jun 15 / DATE COMPLETED: 10 Jun 15
NAME OF DRILLER(S): Randy Hoffman	SURFACE ELEVATION: 20.65 ft msl *surveyed 12 Oct 15
SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Hand augers (4" bucket) Geoprobe DPT (7822 DT) using 5-ft sampler w/ plastic liners	~~SURFACE ELEVATION~~ pilot for well drilled w/ 6 7/8 in augers
	TOTAL DEPTH OF BOREHOLE: 20 ft bgs / DEPTH OF GROUNDWATER ENCOUNTERED: ~7 - 10 ft bgs
	OVERBURDEN THICKNESS: >20 ft / DEPTH DRILLED INTO ROCK: N/A
DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 7.74 ft bgs on 16 Jul 15	OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 8.49 ft bgs on 24 Jul 15
DISPOSITION OF BORE HOLE: Well installed 14 Jul 15 / BACKFILLED: - / MONITORING WELL: yes / OTHER (SPECIFY): -	N/A
LOCATION SKETCH/COMMENTS	SCALE: NOT TO SCALE



Name/Signature: Andrew Smits Andrew Smits — Date: 10 Jul 15 *AS 2 Nov 15

QAQC'd by: — Date:

DRILLING LOG (Page 2)

amec

INSTALLATION/SITE: Fmr Myrtle Beach AFB, FT016P

LOCATION ID: FT016P-05

PROJECT / PROJECT NUMBER: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766
Task Order 0177 / 775290177.0003.300B

SHEET 2 of SHEETS 3

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	HNU SCREENING RESULTS (PPM) (d)	PUSH / SAMPLE INTERVAL (e)	ANALYTICAL SAMPLE NO (f)	USCS (g)	REMARKS (h)
	0.2	TOPSOIL - abundant organic material with sand and silt.			MYRTL SO-019 Ø-2 ft		Gravel = rock frags, up to 4 cm "fill material"
	1.0	Well Graded silty sand with gravel, light gray (5Y 7/1), M-VF sand, NP little fines few gravel, dry					
	2	Silty Sand Dark gray, brown (10YR 4/2) little fines, M-VF sand NP. Mottled black, dry friable, becomes slightly indurated with depth.		Hand Auger 0-5 ft bgs 9 Jul 2015			Jet fuel odor; black mottling appears as staining of fines in matrix.
	3.5				MYRTL SO-020 3-5 ft		
	4						
	5.0	Silty Sand + Sand Lt. grn grey (N7/1) VF-F sand, trace to little fines, NP-LP with shell fragments. Dry grading into				SM + SP	
	6			DPT Ø1 5-10ft bgs 10 Jul 2015			
	6.8						▽ core wet
	8	Sand with silt grey, brown (2.5Y 5/2) M-VF sand, trace to few fines, NP, moist to wet		5ft/5ft	MYRTL SO-021 7.8-9.8ft	~~SM~~ SP-SM	"No hammer" for DPT from 8 to 10 ft. Hole caved to ~8 ft after sampling
	10.0						
	12	Sand with silt light grey (2.5Y 7/2) M-VF sand, few fines, NP. Shell fragments. Decreasing silt content with depth grading into		DPT Ø2 10-15 ft bgs 10 Jul 2015			core saturated
	14	Sand, light grey to grey (N7/ to N6/) M-F sand, NP, tr. fines		3.8ft/5ft		SP	
	16			DPT Ø3			

NAME/SIGNATURE: Andrew Smits

DATE: 10 Jul 2015

QAQC'd by:

DATE:

Drilling Log (Page 2)
Rev. 1, Date: 07/21/2014

DRILLING LOG (Page 2)

INSTALLATION/SITE: Fmr Myrtle Beach AFB, FT016P
LOCATION ID: FT016P-05
PROJECT / PROJECT NUMBER: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766
Task Order 0177 / 775290177. 0003, 300B
SHEET 3 of SHEETS 3

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	HNU SCREENING RESULTS (PPM) (d)	PUSH / SAMPLE INTERVAL (e)	ANALYTICAL SAMPLE NO (f)	USCS (g)	REMARKS (h)
		as above		DPT 03 15-20ft bgs 10jul15 5ft/5ft		SP	
	18						
	20			TD@ 20ft bgs			

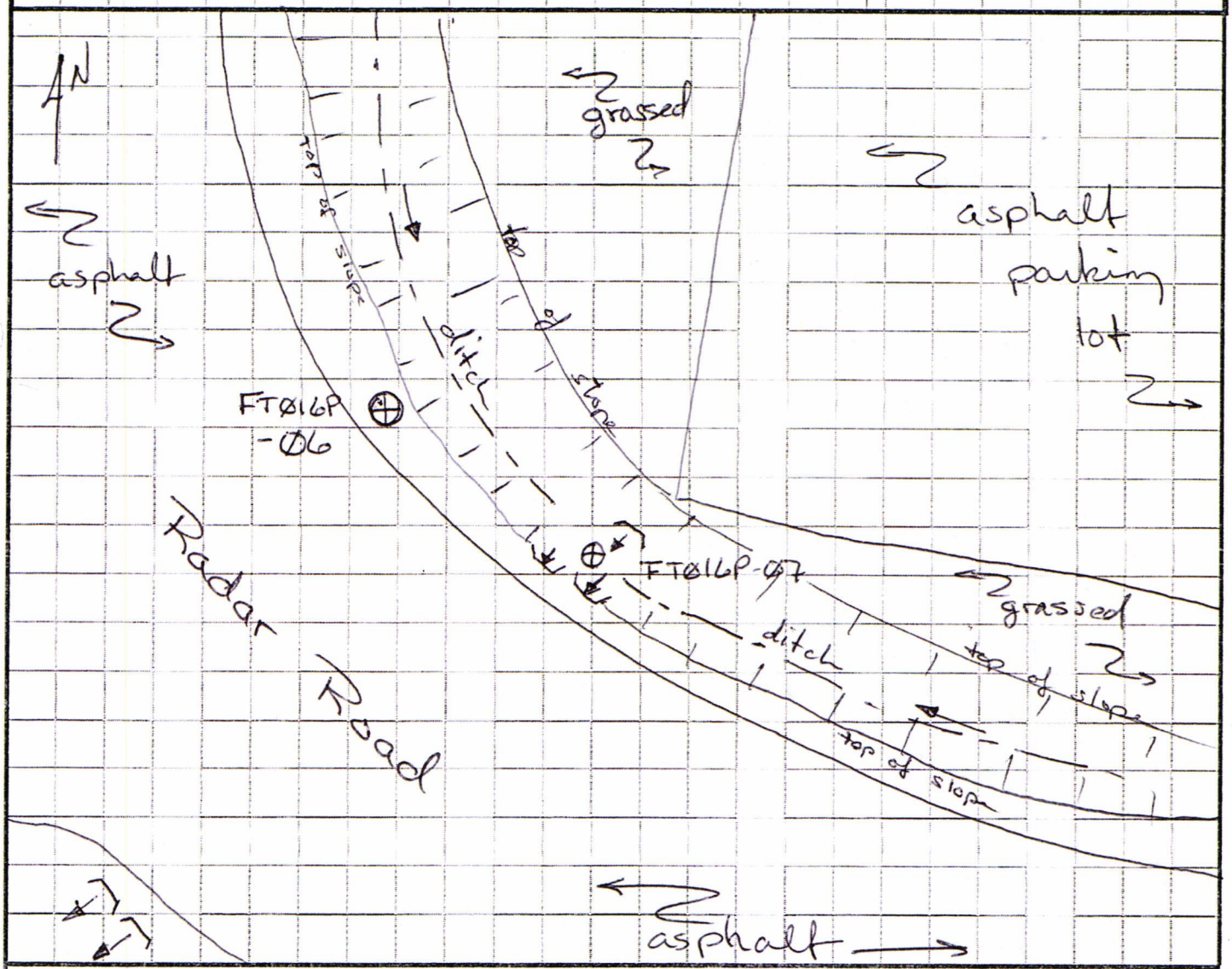
NAME/SIGNATURE: Andrew Smith
DATE: 10 Jul 2015
QAQC'd by:
DATE:

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Rev. 1. Date: 07/21/2014

amec

DRILLING LOG

LOCATION ID: FT016P-06	INSTALLATION/SITE: Frmr Myrtle Beach AFB / FT016P
DRILL SUBCONTRACTOR: SAEDACCO	SHEET: 1 of 3
PROJECT / PROJECT NUMBER: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177 775290177. 0003.0300B	DATE STARTED: 10 Jul 2015 / DATE COMPLETED: 10 Jul 2015
NAME OF DRILLER(S): Randy Hoffman	SURFACE ELEVATION: 20.65 ft msl (surveyed 12 Oct 15) *
SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Hand auger (4" bucket) 0-5 ft	SURFACE ELEVATION: N/A
	TOTAL DEPTH OF BOREHOLE: 20 ft / DEPTH OF GROUNDWATER ENCOUNTERED: 6.2 ft
	OVERBURDEN THICKNESS: 20 ft / DEPTH DRILLED INTO ROCK: 0 ft
DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 6.2 ft AS 5.7 ft 5 hrs	OTHER WATER LEVEL MEASUREMENTS (SPECIFY): 8.34 ft bgs on 24 Jul 2015
DISPOSITION OF BORE HOLE: Well installed 14 Jul 15 / BACKFILLED: — / MONITORING WELL: Yes	OTHER (SPECIFY): — / N/A
LOCATION SKETCH/COMMENTS	SCALE: NOT TO SCALE



Name/Signature: Andrew Smits — Date: 10 Jul 15 *AS INCH 15

QAQC'd by: — Date:

amec DRILLING LOG (Page 2)

INSTALLATION/SITE: Fmr Myrtle Beach AFB, FT016P

LOCATION ID: FT016P-06

PROJECT / PROJECT NUMBER: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766
Task Order 0177 / 775290177. 0003. 3008

SHEET 2 of SHEETS 3

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	HNU SCREENING RESULTS (PPM) (d)	PUSH / SAMPLE INTERVAL (e)	ANALYTICAL SAMPLE NO (f)	USCS (g)	REMARKS (h)
	2	Sand with silt, dark grey (2.5Y 4/1), dry, NP, F-M sand, few fines, poorly graded	0.0	Hand auger 0-5 ft (10 Jul 2015)	MYRTL 50-0023 0-2 ft	SP-SM	
		Silty sand, dark gray (2.5Y 4/1), NP little fines, mixed with shell fragments, limestone fragments, dry. F-M Sand	0.0		MYRTL 50-0024 3-5 ft	SM	
	4	Silty sand, black (N 2.5/1), moist, LP M-F sand, little fines trace to few clay	0.0			SP-SM	
		Sand with silt, very dark grey (10YR 3/1), dry to moist, NP, m-f sand, few fines	0.0				moist sands in core ▽ 1700 10 Jul 15 - hole caved to 5.7 ft with water at bottom of hole ▼ AS
	6						
		Sand with silt, Very pale Brown (10YR 7/4), moist to wet, NP M-F sand, few fines	0.0	DPT 01, 5-10 ft (2.3/5 ft)			"no hammer" on DPT fm 8-10 ft
	8	grades downward into				No Recov.	24 Jul 15 ▼ in completed well *
							wood fragments
	10	Sand, lt. gray (N 6/), wet, NP trace to few fines, M-F sand	0.0	DPT 02 5ft/5ft			
	12	grades into				SP	
	14	Sand, dark gray (N 4/), wet, NP trace fines, M-F sand	0.0			AS	Micaceous Sulphurous odor
				DPT 03 4.5ft/5ft			

NAME/SIGNATURE: Andrew Smits
DATE: 10 Jul 15 *AS 1 NOV 2015

QAQC'd by:
DATE:

amec DRILLING LOG (Page 2)

INSTALLATION/SITE: Fmr Myrtle Beach AFB, FT016P

LOCATION ID: FT016P-06

PROJECT / PROJECT NUMBER: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766
Task Order 0177 / 775290177.0003.3008

SHEET 3 of 3

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	HNU SCREENING RESULTS (PPM) (d)	PUSH / SAMPLE INTERVAL (e)	ANALYTICAL SAMPLE NO (f)	USCS (g)	REMARKS (h)
	18	Sand, dark gray (N 4/), wet, NP, tr. fines, M-VF sand.	0.0	DPT-03 4.5ft/5ft		SP	wood fragments, Sulphurous odor
	20			TD@ 20ft bgs		No Recov	

NAME/SIGNATURE: Andrew Smits
DATE: 10 Jul 2015

QAQC'd by:
DATE:

Drilling Log (Page 1)
Rev. 1. Date: 07/21/2014

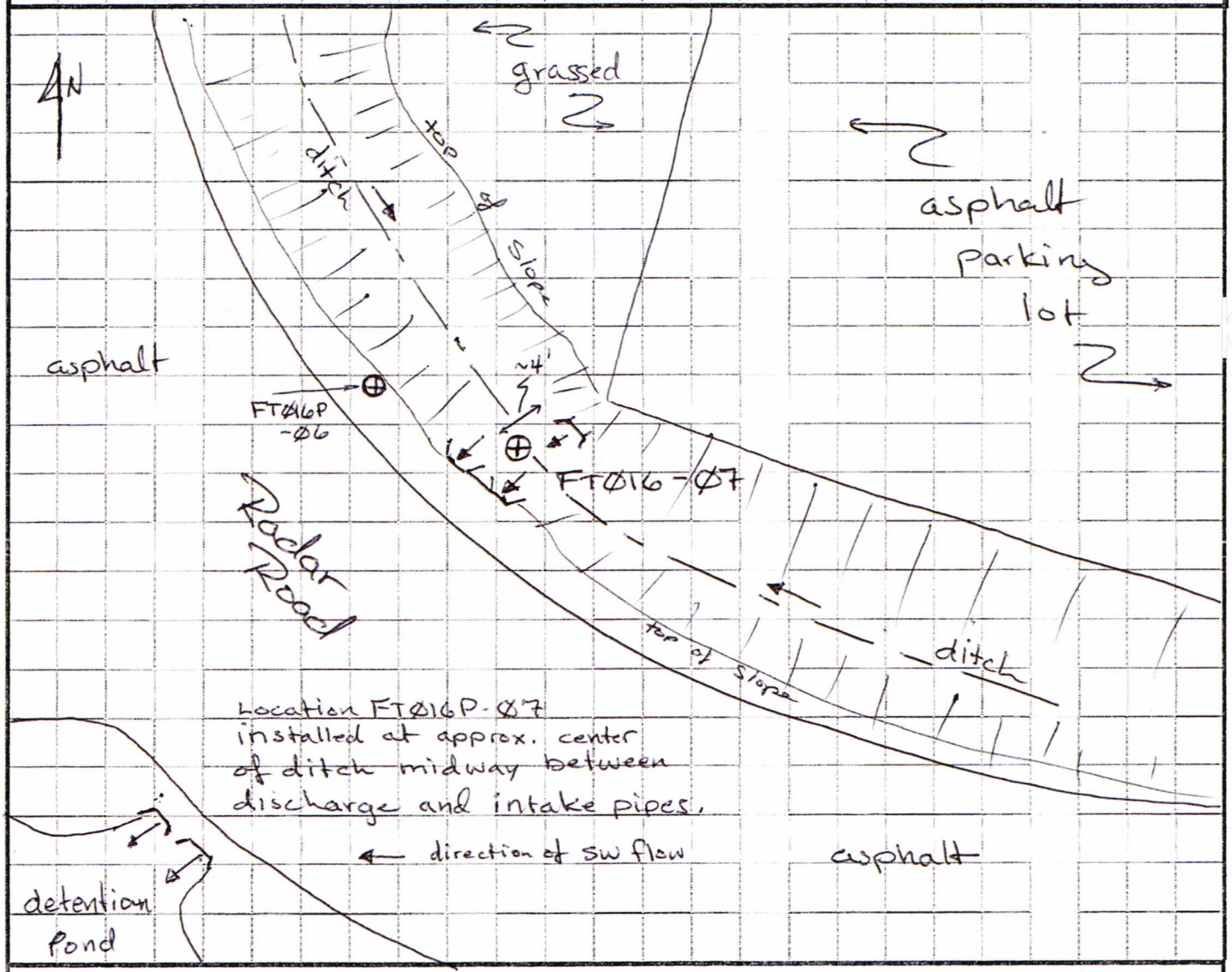
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DRILLING LOG

LOCATION ID: FT016P-07	INSTALLATION/SITE: Fmr Myrtle Beach AFB / FT016P
DRILL SUBCONTRACTOR: SAEDACCO	SHEET: 1 of 2
PROJECT / PROJECT NUMBER: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177 775290177. 0003.0300B	DATE STARTED: 10 July 2015 / DATE COMPLETED: 10 July 2015
NAME OF DRILLER(S): Randy Hoffman (SAEDACCO)	SURFACE ELEVATION: not available at time of drilling
SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: Hand auger (4" bucket) ~~0-5 ft AS~~ 0-1.2 ft; ~~Geoprobe AS~~	SURFACE ELEVATION: N/A
	TOTAL DEPTH OF BOREHOLE: 1.2 ft bgs / DEPTH OF GROUNDWATER ENCOUNTERED: 1.2 ft bgs
	OVERBURDEN THICKNESS: 1.2 ft / DEPTH DRILLED INTO ROCK: 0
DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 1.2 ft, 15 min	OTHER WATER LEVEL MEASUREMENTS (SPECIFY): (none)

DISPOSITION OF BORE HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	
Abandoned	Yes	NO	—	N/A, backfilled w/ soil cuttings + bent. chips

LOCATION SKETCH/COMMENTS — SCALE: NOT TO SCALE



Name/Signature: Andrew Smits — Date: 10 July 2015

QAQC'd by: — Date:

amec DRILLING LOG (Page 2)

INSTALLATION/SITE: Fmr Myrtle Beach AFB, FTØ16P

LOCATION ID: FTØ16P-Ø7

PROJECT / PROJECT NUMBER: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766
Task Order 0177 / 775290177. ØØØ3, 3ØØB

SHEET 2 of SHEETS 2

ELEV (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	HNU SCREENING RESULTS (PPM) (d)	PUSH / SAMPLE INTERVAL (e)	ANALYTICAL SAMPLE NO (f)	USCS (g)	REMARKS (h)
	1.2	Organic soil with sand, black (N 2.5/), moist, v. soft, little m-vf sand LP. trace gravel	0.0	Hand Auger	MYRTL SO-ØØ27 Ø-1.2 ft	OL/ OH	Roots and organic debris water encountered at 1.2 ft ▼
				TD @ 1.2 ft			

NAME/SIGNATURE: Andrew Smits DATE: 10 July 2015

QAQC'd by: DATE:

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APPENDIX B-5

B-5 Sediment Sample Collection Logs

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SEDIMENT AND SURFACE WATER SAMPLE COLLECTION LOG

amec

Project Name: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177

AMEC Proj No: 775290177.0300, 3008

Installation/Site: Former Myrtle Beach AFB / FT016P

Date: 24 Jul 2015

Sample Technician(s): A. Smits

Location ID: MYRTL-FT016P-~~08~~ SD-001

Type(s) of Sample (circle all that apply): (Sediment) Surface Water

SEDIMENT SAMPLE

Sample ID: MYRTL-~~SD08~~ SD-001

Sample Depth: 24-36 inches below bott. of ditch.

Collection Method: hand auger

Sample Container: (1) 250 ml HDPE

Sample Collection Time: 1620 (SM) / ML w/ organics

Sediment Description: silty sand / sandy silt w/organic debris

Analysis/Method: PFCs (LC/MS/MS)

Preservative: Cool 4°C

SURFACE WATER SAMPLE

Sample ID: _____

Sample Depth: _____

Analysis/Method: _____

Preservative: _____

Sample Collection Time: 24 Jul 2015

Collection Method: _____

Sample Container: _____

Water Quality (circle one): Clear Cloudy Turbid Other

COMMENTS:

Sample collected from approx. center of current drainage ditch at a point measured at approx. 15 ft upstream from sluice gate, and 3 ft from water's edge on south bank. Sample collected from depth at which light gray silty sand ~~(N 2.5/0) 10~~ (5GY 3/1) overlies black (N 2.5/) - dark greenish grey organic silt w/ clay, sand, and abundant organic debris.

QAQC'd by:	Date:

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APPENDIX B-6

Well Construction Logs

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WELL CONSTRUCTION FORM

Project:	PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177	Installation/Site:	Former Myrtle Beach AFB
Location ID:	FT016P-01	Well ID:	MYRTL-FT016P-01
Drilling Subcontractor:	SAEDACCO	Installation Date:	7/9/2015
Drilling Personnel:	Randy Hoffman	Project Number:	775290177.0003.0300B
AMEC Field Representative(s):	Andrew Smits		

Protective Cover Elevation (ft): 22.49
Top of Casing Elevation (ft): 22.01
Top of Casing Stickup (ft): -0.41

Land Surface Elevation (ft): 22.42

Approximate Diameter of Borehole (in): 7

Well Casing Diameter (in): 2 ID

Depth to Water (ft): (bgs)
- During Drilling: ~9 ft bgs
  - Date: 7/8/2015
- Post Development: 9.06 ft bgs
  - Date: 7/24/2015

Filter Pack Material:
- Manufacturer: So. Prods + Silica Co.
- Product Name: Filter Media
- Size: GP #2
- Volume Added (ft^3): 3.0

Installation Type: Gravity/Tremie
Surging time:



Top of Bentonite Seal (ft): 17.0
Bottom of Bentonite Seal (ft): 20.0
Top of Filter Pack (ft): 20.0

Top of Screen Interval (ft): 22.00
Bottom of Screened Interval (ft): 32.00

Bottom of Filter Pack (ft): 32.0
Bottom of Borehole (ft): 32.5

Protective Casing:
- Type: Bolt-down Manhole, Steel Flush Mount
- Dimensions (in): 6 ID / 9.9 OD
- Length (ft): 0.77
- Guard Post: N/A

Surface Pad:
- Dimensions: 2' x 2' x 0.25'
- Type: Concrete

Annular Space Seal:
- Type: Bentonite Grout
- Installation: Gravity/Tremie

Bentonite Seal:
- Manufacturer: Halliburton
- Type: Chips
- Installation: 6-in lifts/Tremie/Gravity
- Hydration time (hrs): 1

Well Casing (riser):
- Manufacturer: Silverline Enviro Pure
- Type/Material: Schedule 40 PVC
  Threaded, Flush-coupled
- Diameter (in): 2

Well Screen:
- Manufacturer: Silverline Enviro Pure
  Threaded, Flush-coupled
- Type/Material: Schedule 40 PVC
- Slot Size (in): 0.010
- Slot Type: Factory slot

Sump/End Cap: Schedule 40 PVC 0.18'

Backfill Material: Formation collapse to 32'

Depths and heights are referenced to ground surface unless specified TOC.
All elevations are referenced to MSL (NAVD 88).

QAQC'd by: B. Langan	Date: 3/2016

WELL CONSTRUCTION FORM

Project:	PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177	Installation/Site:	Former Myrtle Beach AFB
Location ID:	FT016P-02	Well ID:	MYRTL-FT016P-02
Drilling Subcontractor:	SAEDACCO	Installation Date:	7/15/2015
Drilling Personnel:	Randy Hoffman	Project Number:	775290177.0003.0300B
AMEC Field Representative(s):	Andrew Smits		

Protective Cover Elevation (ft): 23.46
Top of Casing Elevation (ft): 23.14
Top of Casing Stickup (ft): -0.17

Land Surface Elevation (ft): 23.31

Approximate Diameter of Borehole (in): 7

Well Casing Diameter (in): 2 ID

Depth to Water (ft): bgs
- During Drilling: ~9 ft bgs
  - Date: 7/10/2015
- Post Development: 10.19 ft bgs
  - Date: 7/24/2015

Filter Pack Material:
- Manufacturer: So. Prods + Silica Co.
- Product Name: Filter Media
- Size: GP #2
- Volume Added (ft s 3.0

Installation Type: Gravity/Tremie
Surging time:



Top of Bentonite Seal (ft): 2.0
Bottom of Bentonite Seal (ft): 5.0
Top of Filter Pack (ft): 5.0

Top of Screen Interval (ft): 7.00
Bottom of Screened Interval (ft): 17.00

Bottom of Filter Pack (ft): 17.0
Bottom of Borehole (ft): 17.5

Protective Casing:
- Type: Bolt-down Manhole, Steel Flush Mount
- Dimensions (in): 6 ID / 9.9 OD
- Length (ft): 0.77
- Guard Post: N/A

Surface Pad:
- Dimensions: 2' x 2' x 0.25'
- Type: Concrete

Annular Space Seal:
- Type: Bentonite Grout
- Installation: Gravity/Tremie

Bentonite Seal:
- Manufacturer: Halliburton
- Type: Chips
- Installation: 12-in lifts, Tremie
  Gravity
- Hydration time (hrs): 1

Well Casing (riser):
- Manufacturer: Silverline Enviro Pure
- Type/Material: Schedule 40 PVC
  Threaded, Flush-coupled
- Diameter (in): 2

Well Screen:
- Manufacturer: Silverline Enviro Pure
  Threaded, Flush-coupled
- Type/Material: Schedule 40 PVC
- Slot Size (in): 0.010
- Slot Type: Factory slot

Sump/End Cap: Schedule 40 PVC 0.30'

Backfill Material: Formation collapse to 17'

Depths and heights are referenced to ground surface unless specified TOC.
All elevations are referenced to MSL (NAVD 88).

QAQC'd by: B. Langan	Date: 3/2016

WELL CONSTRUCTION FORM

Project:	PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177	Installation/Site:	Former Myrtle Beach AFB
Location ID:	FT016P-03	Well ID:	MYRTL-FT016P-03
Drilling Subcontractor:	SAEDACCO	Installation Date:	7/13/2015
Drilling Personnel:	Randy Hoffman	Project Number:	775290177.0003.0300B
AMEC Field Representative(s):	Andrew Smits		

Protective Cover Elevation (ft): 24.13
Top of Casing Elevation (ft): 23.66
Top of Casing Stickup (ft): -0.40

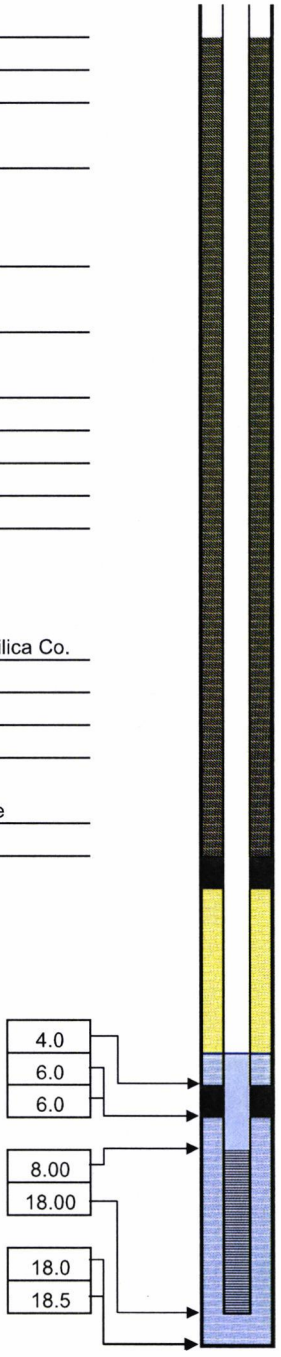
Land Surface Elevation (ft): 24.06

Approximate Diameter of Borehole (in): 7

Well Casing Diameter (in): 2 ID

Depth to Water (ft): (bgs)
- During Drilling: ~11 ft bgs
  - Date: 7/10/2015
- Post Development: 10.82 ft bgs
  - Date: 7/24/2015

Filter Pack Material:
- Manufacturer: So. Prods + Silica Co.
- Product Name: Filter Media
- Size: GP #2
- Volume Added (ft s 2.5
- Installation Type: Gravity/Tremie
- Surging time:



Top of Bentonite Seal (ft): 4.0
Bottom of Bentonite Seal (ft): 6.0
Top of Filter Pack (ft): 6.0

Top of Screen Interval (ft): 8.00
Bottom of Screened Interval (ft): 18.00

Bottom of Filter Pack (ft): 18.0
Bottom of Borehole (ft): 18.5

Protective Casing:
- Type: Bolt-down Manhole, Steel Flush Mount
- Dimensions (in): 6 ID / 9.9 OD
- Length (ft): 0.77
- Guard Post: N/A

Surface Pad:
- Dimensions: 2' x 2' x 0.25'
- Type: Concrete

Annular Space Seal:
- Type: Bentonite Grout
- Installation: Gravity/Tremie

Bentonite Seal:
- Manufacturer: Halliburton
- Type: Chips
- Installation: 12-in lifts, Tremie
  Gravity
- Hydration time (hrs): 1

Well Casing (riser):
- Manufacturer: Silverline Enviro Pure
- Type/Material: Schedule 40 PVC
  Threaded, Flush-coupled
- Diameter (in): 2

Well Screen:
- Manufacturer: Silverline Enviro Pure
  Threaded, Flush-coupled
- Type/Material: Schedule 40 PVC
- Slot Size (in): 0.010
- Slot Type: Factory slot

Sump/End Cap: Schedule 40 PVC 0.17'

Backfill Material: Formation collapse to 18'

Depths and heights are referenced to ground surface unless specified TOC.
All elevations are referenced to MSL (NAVD 88).

QAQC'd by: B. Langan	Date: 3/2016

WELL CONSTRUCTION FORM

Project:	PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177	Installation/Site:	Former Myrtle Beach AFB
Location ID:	FT016P-04	Well ID:	MYRTL-FT016P-04
Drilling Subcontractor:	SAEDACCO	Installation Date:	7/13/2015
Drilling Personnel:	Randy Hoffman	Project Number:	775290177.0003.0300B
AMEC Field Representative(s):	Andrew Smits		

Protective Cover Elevation (ft): 23.53
Top of Casing Elevation (ft): 23.06
Top of Casing Stickup (ft): -0.33

Land Surface Elevation (ft): 23.39

Approximate Diameter of Borehole (in): 7

Well Casing Diameter (in): 2 ID

Depth to Water (ft): (bgs)
- During Drilling: ~10.5 ft bgs
- Date: 7/10/2015
- Post Development: 9.97 ft bgs
- Date: 7/24/2015

Filter Pack Material:
- Manufacturer: So. Prods + Silica Co.
- Product Name: Filter Media
- Size: GP #2
- Volume Added (ft s: 2.5
- Installation Type: Gravity/Tremie
- Surging time:



Top of Bentonite Seal (ft):	3.0
Bottom of Bentonite Seal (ft):	5.0
Top of Filter Pack (ft):	5.0
Top of Screen Interval (ft):	7.00
Bottom of Screened Interval (ft):	17.00
Bottom of Filter Pack (ft):	17.0
Bottom of Borehole (ft):	18.0

Protective Casing:
- Type: Bolt-down Manhole, Steel Flush Mount
- Dimensions (in): 6 ID / 9.9 OD
- Length (ft): 0.77
- Guard Post: N/A

Surface Pad:
- Dimensions: 2' x 2' x 0.25'
- Type: Concrete

Annular Space Seal:
- Type: Bentonite Grout
- Installation: Gravity/Tremie

Bentonite Seal:
- Manufacturer: Halliburton
- Type: Chips
- Installation: 12-in lifts, Tremie
- Gravity
- Hydration time (hrs): 1

Well Casing (riser):
- Manufacturer: Silverline Enviro Pure
- Type/Material: Schedule 40 PVC
- Threaded, Flush-coupled
- Diameter (in): 2

Well Screen:
- Manufacturer: Silverline Enviro Pure
- Threaded, Flush-coupled
- Type/Material: Schedule 40 PVC
- Slot Size (in): 0.010
- Slot Type: Factory slot

Sump/End Cap: Schedule 40 PVC 0.18'

Backfill Material: Formation collapse to 17'

Depths and heights are referenced to ground surface unless specified TOC.
All elevations are referenced to MSL (NAVD 88).

QAQC'd by: B. Langan	Date: 3/2016

WELL CONSTRUCTION FORM

Project:	PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177	Installation/Site:	Former Myrtle Beach AFB
Location ID:	FT016P-05	Well ID:	MYRTL-FT016P-05
Drilling Subcontractor:	SAEDACCO	Installation Date:	7/14/2015
Drilling Personnel:	Randy Hoffman	Project Number:	775290177.0003.0300B
AMEC Field Representative(s):	Andrew Smits		

Protective Cover Elevation (ft): 22.12
Top of Casing Elevation (ft): 21.74
Top of Casing Stickup (ft): -0.28

Land Surface Elevation (ft): 22.02

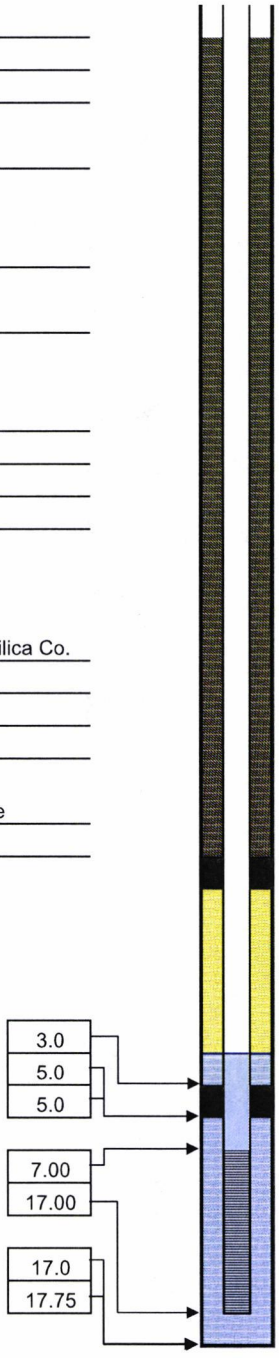
Approximate Diameter of Borehole (in): 7

Well Casing Diameter (in): 2 ID

Depth to Water (ft): (bgs)
- During Drilling: ~11 ft bsg
- Date: 7/10/2015
- Post Development: 8.64 ft bgs
- Date: 7/24/2015

Filter Pack Material:
- Manufacturer: So. Prods + Silica Co.
- Product Name: Filter Media
- Size: GP #2
- Volume Added (ft s 2.5

Installation Type: Gravity/Tremie
Surging time:



Top of Bentonite Seal (ft): 3.0
Bottom of Bentonite Seal (ft): 5.0
Top of Filter Pack (ft): 5.0

Top of Screen Interval (ft): 7.00
Bottom of Screened Interval (ft): 17.00

Bottom of Filter Pack (ft): 17.0
Bottom of Borehole (ft): 17.75

Protective Casing:
- Type: Bolt-down Manhole, Steel Flush Mount
- Dimensions (in): 6 ID / 9.9 OD
- Length (ft): 0.77
- Guard Post: N/A

Surface Pad:
- Dimensions: 2' x 2' x 0.25'
- Type: Concrete

Annular Space Seal:
- Type: Bentonite Grout
- Installation: Gravity/Tremie

Bentonite Seal:
- Manufacturer: Halliburton
- Type: Chips
- Installation: 12-in lifts, Tremie
- Gravity
- Hydration time (hrs): 1

Well Casing (riser):
- Manufacturer: Silverline Enviro Pure
- Type/Material: Schedule 40 PVC
- Threaded, Flush-coupled
- Diameter (in): 2

Well Screen:
- Manufacturer: Silverline Enviro Pure
- Threaded, Flush-coupled
- Type/Material: Schedule 40 PVC
- Slot Size (in): 0.010
- Slot Type: Factory slot

Sump/End Cap: Schedule 40 PVC 0.30'

Backfill Material: Formation collapse/filter sand to 17'

Depths and heights are referenced to ground surface unless specified TOC.
All elevations are referenced to MSL (NAVD 88).

QAQC'd by: B. Langan	Date: 3/2016

WELL CONSTRUCTION FORM

Project:	PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177	Installation/Site:	Former Myrtle Beach AFB
Location ID:	FT016P-06	Well ID:	MYRTL-FT016P-06
Drilling Subcontractor:	SAEDACCO	Installation Date:	7/14/2015
Drilling Personnel:	Randy Hoffman	Project Number:	775290177.0003.0300B
AMEC Field Representative(s):	Andrew Smits		

Protective Cover Elevation (ft): 20.79
Top of Casing Elevation (ft): 20.52
Top of Casing Stickup (ft): -0.13

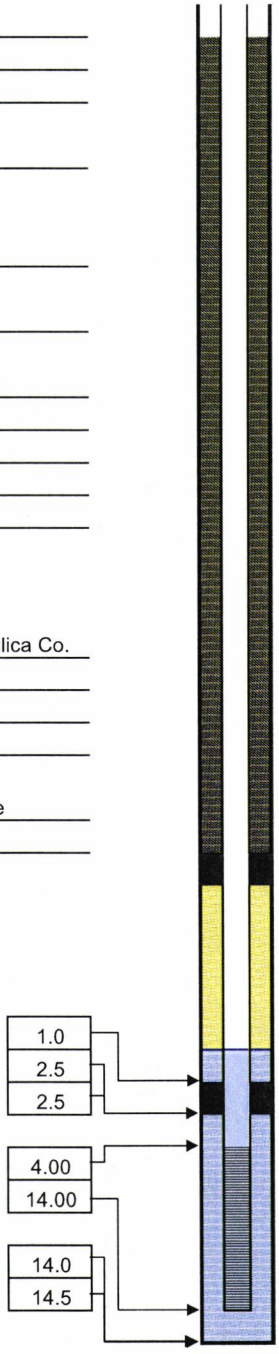
Land Surface Elevation (ft): 20.65

Approximate Diameter of Borehole (in): 7

Well Casing Diameter (in): 2 ID

Depth to Water (ft): (bgs)
- During Drilling: ~5.5-6 ft bgs
  - Date: 7/10/2015
- Post Development: 8.34 ft bgs
  - Date: 7/24/2015

Filter Pack Material:
- Manufacturer: So. Prods + Silica Co.
- Product Name: Filter Media
- Size: GP #2
- Volume Added (ft s 2.5
- Installation Type: Gravity/Tremie
- Surging time:



Top of Bentonite Seal (ft): 1.0
Bottom of Bentonite Seal (ft): 2.5
Top of Filter Pack (ft): 2.5

Top of Screen Interval (ft): 4.00
Bottom of Screened Interval (ft): 14.00

Bottom of Filter Pack (ft): 14.0
Bottom of Borehole (ft): 14.5

Protective Casing:
- Type: Bolt-down Manhole, Steel Flush Mount
- Dimensions (in): 6 ID / 9.9 OD
- Length (ft): 0.77
- Guard Post: N/A

Surface Pad:
- Dimensions: 2' x 2' x 1'
- Type: Concrete
  (Poured to top of bentonite seal)

Annular Space Seal:
- Type: See Surface Pad
- Installation:

Bentonite Seal:
- Manufacturer: Halliburton
- Type: Chips
- Installation: 6-in lifts, Tremie
  Gravity
- Hydration time (hrs): 1

Well Casing (riser):
- Manufacturer: Silverline Enviro Pure
- Type/Material: Schedule 40 PVC
  Threaded, Flush-coupled
- Diameter (in): 2

Well Screen:
- Manufacturer: Silverline Enviro Pure
  Threaded, Flush-coupled
- Type/Material: Schedule 40 PVC
- Slot Size (in): 0.010
- Slot Type: Factory slot

Sump/End Cap: Schedule 40 PVC 0.18'

Backfill Material: Formation collapse/filter sand to 14'

Depths and heights are referenced to ground surface unless specified TOC.
All elevations are referenced to MSL (NAVD 88).

QAQC'd by: B. Langan	Date: 3/2016

Well Construction Form
Rev. 1. Date: 07/21/2014

WELL CONSTRUCTION FORM

Project: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177

Location ID: FTØ16P-Ø1

Drilling Subcontractor: SAEDACCO

Drilling Personnel: Randy Hoffman

AMEC Field Representative(s): Andrew Smith

Installation/Site: Fmr Myrtle Beach AFB FTØ16P

Well ID: MYRTL-FTØ16P-Ø1

Installation Date: 9-Jul-2015

Project Number: 775290177.0300.3008

Protective Cover Elevation (ft): 22.49

Top of Casing Elevation (ft): 22.01

Top of Casing Stickup (ft): -0.41

Land Surface Elevation (ft): 22.42

Approximate Diameter of Borehole (in): (nominal) 7

Well Casing Diameter (in): 2-inch nom.

Depth to Water (ft): (bgs)

During Drilling: ~9 ft bgs

Date: 8-Jul-15

Post Development: 5.06 ft bgs

Date: 24-Jul-2015

Filter Pack Material:

Manufacturer: So. Prods + Silica Co.

Product Name: Filter Media

Size: GP #2

Volume Added (ft^3): 3.0 (6 bags)

Installation Type: (Gravity) Tremie

Surging time: (through augers)

Protective Casing:

Type: bolt-down manhole, flush mount

Dimensions (in): 6-in I.D. / 9.9-in O.D.

Length (ft): 9.2 in / 0.77 ft

Guard Post: n/a

Surface Pad: (1.25 ft)

Dimensions: 2 ft x 2ft x 3 in

Type: concrete

Annular Space Seal:

Type: bentonite grout

Installation: (Gravity) (Tremie)* Pumped

Bentonite Seal:

Manufacturer: Halliburton

Type: (Chips) Slurry ~~**~~ AS

Installation: (6-in lifts) One Section

(Gravity) (Tremie)* Pumped

Hydration time (hrs): 1+ hr

*through augers ~~** 5 gal pail water for each 6-in lift~~ AS

Well Casing (riser):

Manufacturer: Silver-Line

Type/Material: PVC Sch 40 threaded, flush-coupled

Diameter (in): 2-inch nom.

Well Screen:

Manufacturer: Silver-Line/EnviroPure ~~PVC Sch 40 AS~~ threaded, flush coupled

Type/Material: PVC Sch 40

Slot Size (in): 0.010

Slot Type: Continous (Factory slot)

Sump/End Cap: PVC, Sch 40, (0.18 ft)

(1) Backfill Material: formation collapse to ~32 during installation

Top of Bentonite Seal (ft): 17

Bottom of Bentonite Seal (ft): 20

Top of Filter Pack (ft): 20

Top of Screen Interval (ft): 22

Bottom of Screened Interval (ft): 32

Bottom of Filter Pack (ft): 32

Bottom of Borehole (ft): (1) 32

(1) 32.5



Depths and heights are referenced to ground surface unless specified TOC.

All elevations are referenced to MSL (NAVD 88).

QAQC'd by:	Date:

Well Construction Form
Rev. 1, Date: 07/21/2014

WELL CONSTRUCTION FORM

Project: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177

Installation/Site: Finr Myrtle Beach AFB FTØ16P

Location ID: FTØ16P-Ø2

Well ID: MYRTL-FTØ16P-Ø2

Drilling Subcontractor: SAEDACCO

Installation Date: 15-Jul-2015

Drilling Personnel: Randy Hoffman

Project Number: 775290177.0300.3008

AMEC Field Representative(s: Andrew Smits

Protective Cover Elevation (ft): 23.46
Top of Casing Elevation (ft): 23.14
Top of Casing Stickup (ft): -0.17

Land Surface Elevation (ft): 23.31

Approximate Diameter of Borehole (in): (nominal) 7

Well Casing Diameter (in): 2-in. nom.

Depth to Water (ft): (bgs)
During Drilling: ~~27~~ ~9 ft bgs
Date: 10-Jul-2015
Post Development: 10.19 ft bgs
Date: 24-Jul-2015

Filter Pack Material:
Manufacturer: So. Prods + Silica Co.
Product Name: Filter Media
Size: GP#2
Volume Added (ft^3): 3 cu.ft (6 bags)

Installation Type: (Gravity) (Tremie*)
Surging time:

*through augers

Top of Bentonite Seal (ft): 2
Bottom of Bentonite Seal (ft): 5
Top of Filter Pack (ft): 5

Top of Screen Interval (ft): 7
Bottom of Screened Interval (ft): 17

Bottom of Filter Pack (ft): 17
Bottom of Borehole (ft): ① 17

① 17.5



Protective Casing:
Type: bolt-down, manhole
Dimensions (in): 6 in. ID / 9.9-in. O.D.
Length (ft): 0.77
Guard Post: n/a

Surface Pad:
Dimensions: 2 ft x 2ft x .25 ft
Type: concrete

Annular Space Seal:
Type: bentonite grout
Installation: (Gravity) (Tremie*) Pumped

Bentonite Seal:
Manufacturer: Halliburton
Type: (Chips) 12 Slurry
Installation: (6 in lifts**) One Section
(Gravity) (Tremie*) Pumped
Hydration time (hrs): 1 hr

*through augers **5-gal pail water for each ~~6 in.~~ 12-in lift

Well Casing (riser):
Manufacturer: Silver-Line
Type/Material: PVC Sch 40 threaded, flush coupled
Diameter (in): 2-in. nom.

Well Screen:
Manufacturer: Silver-Line / Enviro Pure threaded, flush coupled
Type/Material: PVC, sch 40
Slot Size (in): .010
Slot Type: Continous (Factory slot)

Sump/End Cap: PVC Sch 40, 0.30 ft

Backfill Material: formation collapse ① to 17 ft during installation.

Depths and heights are referenced to ground surface unless specified TOC.
All elevations are referenced to MSL (NAVD 88).

QAQC'd by:	Date:

Well Construction Form
Rev. 1, Date: 07/21/2014

WELL CONSTRUCTION FORM

Project: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177
Location ID: FTØ16P-Ø3
Drilling Subcontractor: SAEDACCO
Drilling Personnel: Randy Hoffman
AMEC Field Representative(s: Andrew Smits

Installation/Site: Fmr Myrtle Beach AFB FTØ16P
Well ID: MYRTL-FTØ16P-Ø3
Installation Date: 13-Jul-2015
Project Number: 775290177.0300, 300B

Protective Cover Elevation (ft): 24.13
Top of Casing Elevation (ft): 23.66
Top of Casing Stickup (ft): -0.40

Land Surface Elevation (ft): 24.06

Approximate Diameter of Borehole (in): (nominal) 7

Well Casing Diameter (in): 2-in. nominal

Depth to Water (ft): (bgs)
During Drilling: ~11 ft bgs
Date: 10-Jul-2015
Post Development: 10.82 ft bgs
Date: 24-Jul-2015

Filter Pack Material:
Manufacturer: So. Prods. + Silica Co.
Product Name: Filter Media
Size: GP#2
Volume Added (ft^3): 2.5, (5 bags)

Installation Type: Gravity (Tremie)*
Surging time: * through augers

Protective Casing:
Type: manhole, bolt-down
Dimensions (in): 6-in. I.D / 9.9-in. O.D
Length (ft): 9.2 in / 0.77 ft
Guard Post: n/a

Surface Pad:
Dimensions: 2 ft x 2 ft x .25 ft
Type: concrete

Annular Space Seal:
Type: bentonite grout
Installation: (Gravity) (Tremie)* Pumped

Bentonite Seal:
Manufacturer: Halliburton
Type: (Chips) /2 Slurry
Installation: ~~6-in lifts~~** One Section
(Gravity) (Tremie)* Pumped
Hydration time (hrs): 1 hr
* through augers ** 5 gal pot. water for each 6-in lift /12

Well Casing (riser):
Manufacturer: Silver-Line
Type/Material: PVC, sch 40 threaded, flush-coupled
Diameter (in): 2-in nom.

Well Screen:
Manufacturer: Silver-Line / EnviroPure threaded, flush-coupled
Type/Material: PVC Sch 40
Slot Size (in): .010
Slot Type: Continous (Factory slot)

Sump/End Cap: PVC, Sch 40, 0.17 ft

Backfill Material: ~~formation collapse~~ to ~18 ft during installation ①

Top of Bentonite Seal (ft): 4
Bottom of Bentonite Seal (ft): 6
Top of Filter Pack (ft): 6

Top of Screen Interval (ft): 8
Bottom of Screened Interval (ft): 18

Bottom of Filter Pack (ft): 18
Bottom of Borehole (ft): ① 18

① 18.5



Depths and heights are referenced to ground surface unless specified TOC.
All elevations are referenced to MSL (NAVD 88).

QAQC'd by:	Date:

Well Construction Form
Rev. 1, Date: 07/21/2014

WELL CONSTRUCTION FORM

Project: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177

Installation/Site: Fmr Myrtle Beach AFB FT016P

Location ID: FT016P-04

Well ID: MYRTL-FT016-04

Drilling Subcontractor: SAEDACCO

Installation Date: 13-Jul-2015

Drilling Personnel: Randy Hoffman

Project Number: 775290177.0300.3008

AMEC Field Representative(s): Andrew Smith

Protective Cover Elevation (ft): 23.53
Top of Casing Elevation (ft): 23.06
Top of Casing Stickup (ft): -0.33

Land Surface Elevation (ft): 23.39

Approximate Diameter of Borehole (in): (nominal) 7

Well Casing Diameter (in): 2-in. nominal

Depth to Water (ft): (bgs)
During Drilling: ~10.5 ft bgs
Date: 10-Jul-15
Post Development: 9.97 ft bgs
Date: 24-Jul-2015

Filter Pack Material:
Manufacturer: So. Prods. + SilicaCo.
Product Name: Filter Media
Size: GP#2
Volume Added (ft^3): 2.5, (5 bags)

Installation Type: Gravity (Tremie)*
Surging time: *through augers

Protective Casing:
Type: manhole, bolt-down
Dimensions (in): 6-in I.D. / 9.9-in O.D.
Length (ft): 0.77 ft
Guard Post: n/a

Surface Pad:
Dimensions: 2 ft x 2 ft x .25 ft
Type: concrete

Annular Space Seal:
Type: bentonite grout
Installation: (Gravity) (Tremie) Pumped

Bentonite Seal:
Manufacturer: Halliburton
Type: (Chips) 1/2 Slurry
Installation: 6-in lifts** One Section
(Gravity) (Tremie)* Pumped
Hydration time (hrs): 1 hr

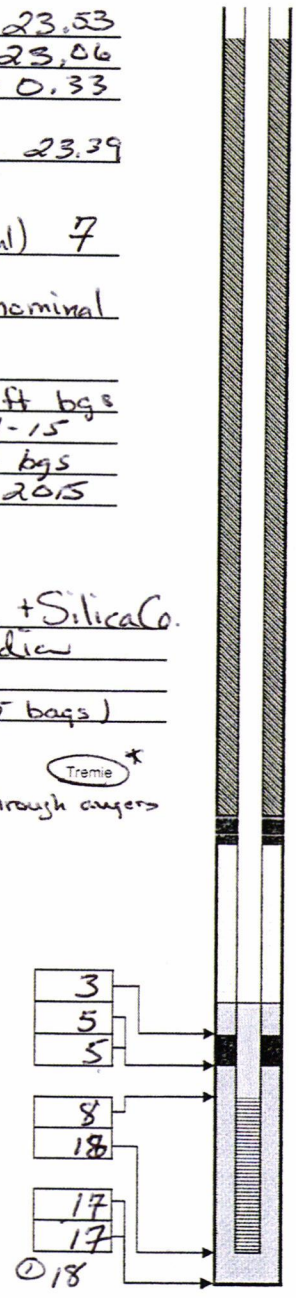
* through augers ** 2.5 gal pct. water for every lift

Well Casing (riser):
Manufacturer: Silver-Line
Type/Material: PVC Sch 40 threaded, flush coupled
Diameter (in): 2-in nominal

Well Screen:
Manufacturer: Silver-Line/EnviroPure threaded, flush-coupled
Type/Material: PVC Sch 40, ~~0.18 ft~~ 45
Slot Size (in): 0.010
Slot Type: Continous (Factory slot)

Sump/End Cap: PVC Sch 40, 0.18 ft

Backfill Material: formation collapse ① to 17 ft during installation.



Top of Bentonite Seal (ft): 3
Bottom of Bentonite Seal (ft): 5
Top of Filter Pack (ft): 5

Top of Screen Interval (ft): 8
Bottom of Screened Interval (ft): 18

Bottom of Filter Pack (ft): 17
Bottom of Borehole (ft): ① 17 ① 18

Depths and heights are referenced to ground surface unless specified TOC.
All elevations are referenced to MSL (NAVD 88).

QAQC'd by:	Date:

Well Construction Form
Rev. 1, Date: 07/21/2014

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WELL CONSTRUCTION FORM

Project: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177

Installation/Site: Fmr Myrtle Beach AFB FTØ16P

Location ID: FTØ16P-Ø5

Well ID: MYRTL-FTØ16P-Ø5

Drilling Subcontractor: SAEDACCO

Installation Date: 14-Jul-2015

Drilling Personnel: Randy Hoffman

Project Number: 775290177.0300.3008

AMEC Field Representative(s): Andrew Smits

Protective Cover Elevation (ft): 22.12
Top of Casing Elevation (ft): 21.74
Top of Casing Stickup (ft): -0.28

Land Surface Elevation (ft): 22.02

Approximate Diameter of Borehole (in): (nominal) 7

Well Casing Diameter (in): 2-in. nominal

Depth to Water (ft): (bgs)
During Drilling: ~11 ft bgs
Date: 10-Jul-2015
Post Development: 8.24 ft bgs
Date: 24-Jul-2015

Filter Pack Material:
Manufacturer: So. Prods + Silica Co.
Product Name: Filter Media
Size: GP #2 #3
Volume Added (ft^3): 2.5 (~~4.5~~ bags)

Installation Type: Gravity (Tremie*)
Surging time:
* through augers

Protective Casing:
Type: Manhole, bolt-down
Dimensions (in): 6-in. I.D. / 9.9 in O.D.
Length (ft): 9.2 in / 0.77 ft
Guard Post: n/a

Surface Pad:
Dimensions: 2 ft x 2ft x .25 ft
Type: concrete

Annular Space Seal:
Type: bentonite grout
Installation: Gravity (Tremie*) Pumped

Bentonite Seal:
Manufacturer: Halliburton
Type: (Chips) Slurry
Installation: (2-in lifts)** One Section
(Gravity) (Tremie*) Pumped
Hydration time (hrs): 1 hr

* through augers ** 25 gal pot. water for each 2 in lift

Well Casing (riser):
Manufacturer: Silver-Line / Enviro Pure
Type/Material: PVC, Sch 40 threaded, flush coupled
Diameter (in): 2-in. nominal

Well Screen:
Manufacturer: Silver Line / Enviro Pure threaded, flush-coupled
Type/Material: PVC Sch 40
Slot Size (in): .010
Slot Type: Continous (Factory slot)

Sump/End Cap: PVC Sch 40, 0.30 ft

Backfill Material: formation collapse ① / filter sand to 17 ft during installation.

Top of Bentonite Seal (ft): 3
Bottom of Bentonite Seal (ft): 5
Top of Filter Pack (ft): 5

Top of Screen Interval (ft): 7
Bottom of Screened Interval (ft): 17

Bottom of Filter Pack (ft): 17
Bottom of Borehole (ft): ① 17
① 17.75



Depths and heights are referenced to ground surface unless specified TOC.
All elevations are referenced to MSL (NAVD 88).

QAQC'd by:	Date:

Well Construction Form
Rev. 1, Date: 07/21/2014

WELL CONSTRUCTION FORM

Project: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177
Location ID: FTØ16P-Ø6
Drilling Subcontractor: SAEDACCO
Drilling Personnel: Randy Hoffman
AMEC Field Representative(s): Andrew Smits

Installation/Site: Fmr Myrtle Beach AFB FTØ16P
Well ID: MYRTL-FTØ16P-Ø6
Installation Date: 14-Jul-2015
Project Number: 775290177.0300.3003

Protective Cover Elevation (ft): 20.79
Top of Casing Elevation (ft): 20.52
Top of Casing Stickup (ft): -0.13

Land Surface Elevation (ft): 20.25

Approximate Diameter of Borehole (in): nominal 7

Well Casing Diameter (in): 2-in. nom.

Depth to Water (ft): (bgs)
During Drilling: ~5.5-6 ft bgs
Date: 10-Jul-15
Post Development: 8.34 ft bgs
Date: 24-Jul-2015

Filter Pack Material:
Manufacturer: So. Prods. + Silica Co.
Product Name: Filter Media
Size: GP#2
Volume Added (ft^3):

Installation Type: (Gravity) (Tremie)*
Surging time:
* through augers

Protective Casing:
Type: manhole, bolt-down
Dimensions (in): 6-in ID / 9.9-in OD
Length (ft): 9.2 in. / 0.77 ft
Guard Post: n/a

Surface Pad:
Dimensions: 2 ft x 2 ft x 1 ft
Type: concrete
(poured to top of bentonite seal)

Annular Space Seal:
Type: ~~bentonite grout~~ AS
Installation: Gravity (Tremie)* Pumped
* through augers
See surface pad

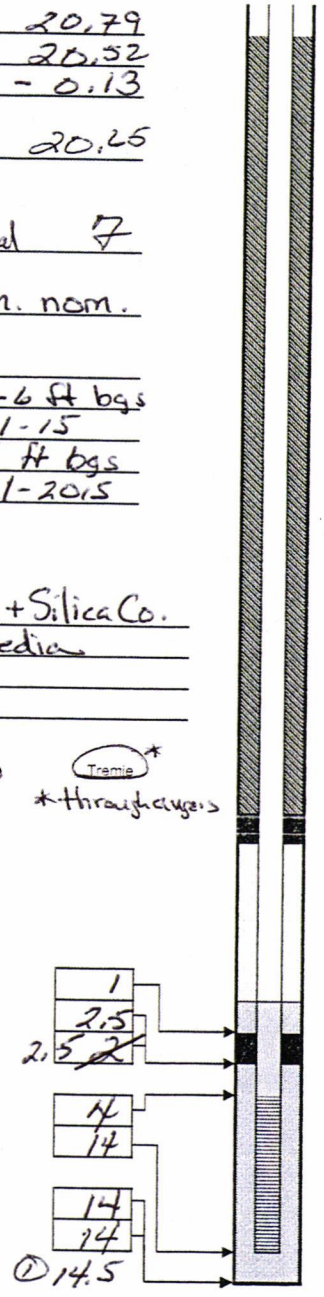
Bentonite Seal:
Manufacturer: Halliburton
Type: (Chips) Slurry
Installation: (6-in lifts)** One Section
(Gravity) (Tremie)* Pumped
Hydration time (hrs): 1 hr
** 5-gal pot water for each 6-in lift

Well Casing (riser):
Manufacturer: Silver-Line
Type/Material: PVC, Sch 40 threaded, flush-coupled
Diameter (in): 2-in. nominal

Well Screen:
Manufacturer: Silver-Line / EnviroPune threaded, flush-coupled
Type/Material: PVC Sch 40
Slot Size (in): 0.010
Slot Type: Continous (Factory slot)

Sump/End Cap: PVC, Sch 40, 0.18 ft

Backfill Material: formation collapse / filter sand to 14 ft during installation.



Top of Bentonite Seal (ft):
Bottom of Bentonite Seal (ft):
Top of Filter Pack (ft):

Top of Screen Interval (ft):
Bottom of Screened Interval (ft):

Bottom of Filter Pack (ft):
Bottom of Borehole (ft) ①

Depths and heights are referenced to ground surface unless specified TOC.
All elevations are referenced to MSL (NAVD 88).

QAQC'd by:	Date:

APPENDIX B-7

Well Development Logs

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WELL DEVELOPMENT LOG

amec

Project Name: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177
AMEC Proj No: 775290177. 0300, 300B
Installation/Site: Former Myrtle Beach AFB / FT016P
Date: 15 Jul 2015
Sample Technician: A. Smits
Location ID (Well ID): FT016P-01

Measurements

Well Total Depth: 31.75 ft below TOC
Initial Water Level: 8.53 ft below TOC @ 0918
Final Water Level: — ft below TOC
Calculated Well Volume: 8.4 Gallons
Well Diameter: 2 inches nom. casing dia.
Calculations: 1" diameter = 0.041 gal/ft 2" diameter = 0.163 gal/ft 4" diameter = 0.653 gal/ft

Well Purging Activites

Purging Method (pump type): bailer followed by Monsoon pump Flow rate (incl. units): (varies, see below) 54.5 (Incr.)

Time	Flow Rate ~~(ml/min) gpm~~	Turbidity (NTUs)	Temp (°C)	Cond. (mS/Cm)	pH	Salinity (%)	DO (mg/l)	ORP	~~Total~~ Gal Pumped	Comments	DTW (H_2O)
1206	19V ~ 1.5gpm								+3	Pump @ 19.8	9.80
1211	19V 1.5gpm								~~+6~~	19.8	9.81
1213	19V 1.5								6	19.8	9.87
1218	19V 1.5								6		9.82
1220	19V "								—	11.7	
1221	19V "								6	11.7	9.82
1225	19V "								6	11.7	9.83
1229	22V "										10.0
1231	22V "								6	11.7	10.
1234	22V "								6	11.7	9.99
1237	22V "								6	11.7	10.01
1240	22V "	NO							6	11.7	10.01
1243	22V "								6	—	10.02
1246	22V "								6	-	10.0 10.0
1249	— 1.5								6	-	~~10.0~~ 10.8
1250	— 1.5								—	Pump @ 16.5	
1253	22V 1.5								6	-	10.02
Results At End Of Purging:										4.5	

water quality reading due to high Turbidity

81

92.5 ~~54.5~~ AS from prev. pg ①
~~135.5~~ AS
163.5 gal removed as of 1253

COMMENTS:
① Well devel. measurements and notes from 0930 to 1205 captured in Field Activ. Log. due to absence of proper form at start of activity.
Purge volume to account for addition of ~85 gal water during drilling/installation.

QAQC'd by: Date:

WELL DEVELOPMENT LOG

amec

Project Name: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177
AMEC Proj No: 775290177. 0300, 300B
Installation/Site: Former Myrtle Beach AFB / FT016P
Date: 15 Jul 2015
Sample Technician: A. Smith
Location ID (Well ID): ~~FTP~~ FT016P-01

Measurements

Well Total Depth: 31.75 ft below TOC
Initial Water Level: 8.53 ft below TOC
Final Water Level: — ft below TOC
Calculated Well Volume: 8.4 Gallons
Well Diameter: 2 inches
Calculations: 1" diameter = 0.041 gal/ft 2" diameter = 0.163 gal/ft 4" diameter = 0.653 gal/ft

Well Purging Activites

Purging Method (pump type): Monsoon pump
Flow rate (Incl. units): (varies, see below) ~~185.5~~ 163.5

Time	Flow Rate (ml/min)	Turbidity (NTUs)	Temp (°C)	Cond. (mS/Cm)	pH	Salinity (%)	DO (mg/l)	ORP	~~Total~~ Gal Pumped (15 incr)	Comments	DTW
1306	22V 2 gpm								+6	Pump @ 16.5	9.98
1304	"								6		10.01
1307	"								6		10.01
1310	"								6		10.01
1311	2 gal/min	by buck, + watch*							—		—
1313	22V								6	15	2 (trans-pipe to drum)
1321	22V								~~15~~ 21.5	Top Pump, 2V	
1340	22 V	N.M.	N.M.	NM	N.M.	N.M.	N.M.	17.5	30.5	Connect Horiba	
1345	22V	54.6	19.90	0.302	5.68		0.65	-60	229	Pump @ 21.2 ft	9.91 ~~ft~~ toc
1348	22V	Calc 2 gal/min w grad. bucket + watch								21.2	—
1355	22V 2 gpm	43.2	19.87	.295	6.00		0.00	-83	239	21.2	9.90
1400	22V 2 gpm	38.0	19.89	.303	6.13		0.00	-93	249	21.2	~~9.89~~ 9.89
1402	22V 1.5 gpm	w/ stopwatch					—	—	—		9.88
1405		36.9	19.88	.305	6.01		0.00	-86	256		9.88
1410	22V	—	—	—	—		—	—	—		—
1415	22 2 gpm*	42.1	19.97	.302	5.74		9.67	-69	272		9.88
1417	19V 1.6 gpm*	—	—	—	—		—	—	—		—
Results At End Of Purging:										AS	

*measured w/ grad. bucket + stopwatch

COMMENTS:

163.5 + 65.5 = 229.0 ~~+ 64 = 293.5~~ 229.5 AS

1345 − 1313 = 32

QAQC'd by: Date:

WELL DEVELOPMENT LOG

amec

Project Name: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177
AMEC Proj No: 775290177. 0300. 300B
Installation/Site: Former Myrtle Beach AFB / FT016P
Date: 15 Jul 2015
Sample Technician: A. Smits
Location ID (Well ID): FT016P01

Measurements

Well Total Depth: 31.75 ft below TOC
Initial Water Level: 8.53 ft below TOC
dynamic Final Water Level: 8.61 ft below TOC
dynamic final water level 9.73
Calculated Well Volume: 8.4 Gallons
Well Diameter: 2 inches

Calculations: 1" diameter = 0.041 gal/ft 2" diameter = 0.163 gal/ft 4" diameter = 0.653 gal/ft

Well Purging Activites

Purging Method (pump type): monsoon pump
Flow rate (incl. units):

Time	Flow Rate ~~(ml/min)~~ gpm	Turbidity (NTUs)	Temp (°C)	Cond. (mS/Cm)	pH	Salinity (%)	DO (mg/l)	ORP	~~Incr~~ Total Gal Pumped	Comments	DTW
~~1425~~ 1430 AS	19V 1.65g	41.6	19.96	.300	6.17	-	5.17	-97	—		9.74
1430	19V 1.65	41.6	19.94	.298	6.26	-	~~4.0~~ 3.94 AS	-102	300		9.73
1435	19V 1.65	340.1	19.98	.299	6.29		2.41	-104	308		9.73
1440	Development Completed						Shut down pump				—
1445	recovery	—	—	—	—	—	—	—	—	—	8.68
1535	recovery	—	—	—	—	—	—	—	—	—	8.61
1600	recovery	—	—	—	—	—	—	—	—	—	8.61
1600	Pull pump										—
Results At End Of Purging:		40.1	19.98	0.299	6.29	—	2.41	-104	308		

15 Jul 15

COMMENTS:

QAQC'd by: Date:

Field Activity Daily Log
Rev. 1, Date: 07/21/2014

amec FIELD ACTIVITY DAILY LOG

DAILY LOG	DATE	15	Jul	15
	NO.	—	—	—
	SHEET	3	OF	9

Project Name: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177

Project No. 775290177.0003.0300B

Installation/Site: Fmr Myrtle Beach AFB / FT016P

Description of daily activities and events:

	gal. removed
0930 Bailed 3 1/2 gals using ssteel bailer suspended by yellow poly rope.	3.5
0932 H_2O @ 8.71 ft TOCw "soft" tag @ ~~30.6~~ 31.74	
0940 Grouting annulus at loc 02	
0955 7 gallons removed H_2O @ 8.77 ft TOCw; Tag @ 31.75 ft TOCw	7
1016 7 gals removed by bailer H_2O at 8.68 ft tag @ 31.73	7
1030 3 1/2 gal removed by bailer	3.5
1033 Randy Hoffman resumes bailing to make ~~7~~ 3 1/2 gals ea	
1040 H_2O @ 8.68 after 3 1/2 gals. (by bailer) ≅ 24.5 total (bailed) gallons	
1045 Introduced pump to TD = 31 ft	
1055 H_2O @ 8.57 ft TOCw Top of pump @ 27.8 ft TOCw	
	24.5

List Samples Collected: (NONE)

Visitors on Site: (NONE)

Deviation from plans: (NONE)

Weather conditions: 85-90°F, clear – hazy, light breeze

Important telephone calls / photos taken: (NONE)

Personnel on Site: A. Smits; SAE Crew (3)

Name/Signature: Andrew Smits Andrew Smits **Date:** 15 Jul 15

QA/QC'd by: **Date:**

Field Activity Daily Log
Rev. 1, Date: 07/21/2014

amec FIELD ACTIVITY DAILY LOG

DAILY LOG	DATE	15	Jul	15
	NO.	—	—	—
	SHEET	4	OF	9

Project Name: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177	Project No. 775290177.0003.0300B

Installation/Site: Fmr Myrtle Beach AFB / FT016P

Description of daily activities and events:

				gal rem.
1100	Setting up DPT Rig for power source for pump.			—
1105	Pump @ 14.3 volts on controller			—
1107	H_2O @	9.28 ft	after 3 gals	3
1110		9.31 ft	after 3 gals water has sulphurous odor	3
1113	H_2O @	9.31 ft	after 3 gals odor	3
1116	H_2O @	9.32 ft	after 3 gals Pump running 14.5 V	3
1119		9.33	3 gals	3
1122		9.34	3	3
1125		9.34	3	3
1127		9.34	3	3
1130		9.33	3	3
1130		—	— Increase pump to 15 V	—
1132		9.49	3 15V (drum 1)	3
1134		9.52	3 15V	
1137		9.52	— 15V	
				54.5

List Samples Collected: (NONE)

Visitors on Site: (NONE)	Deviation from plans: (NONE)
Weather conditions: 85-90 Clear lgt brez	Important telephone calls / photos taken: (NONE)

Personnel on Site: A. Smits ; SAE Crew (3)

Name/Signature: Andrew Smits (Andrew Smits) Date: 15 Jul 15

QA/QC'd by: Date:

Field Activity Daily Log
Rev. 1, Date: 07/21/2014

FIELD ACTIVITY DAILY LOG

DAILY LOG	DATE	15	Jul	15
	NO.	—	—	—
	SHEET	5	OF	9

Project Name: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177

Project No. 775290177.0003.0300B

Installation/Site: Fmr Myrtle Beach AFB / FTØ16P

Description of daily activities and events:

Time	DTW	Vol. Removed	NOTES	gal rem.
				54.5
1140	9.52	3 gals		3
1142	9.53	3		3
1142	—	—	increase to 16V	3
1143	9.60	3	16.2V	3
1146	9.60	3		3
1148	9.62	3		3
1150	9.60	3	moved pump up to 23.2ft TOC	3
1152	9.58	3		3
1154	9.60	3		3
1157	9.59	3		3
1159	9.60	3	19.8 ft toc	3
1200	—	—	1 to 19V	—
1201	9.74	3		3
1203	9.79	3		3
1205*	9.81	3		3
				92.5

List Samples Collected: (NONE)

* Readings and observations after this point in time recorded on proper data sheets.

Visitors on Site: (NONE)

Deviation from plans: (NONE)

Weather conditions: 90+ light breeze clear to hazy

Important telephone calls / photos taken: (NONE)

Personnel on Site: A. Smits ; SAE crew (3)

Name/Signature: Andrew Smits (Andrew Smits) **Date:** 15 Jul 15

QA/QC'd by: **Date:**

Well Development Log
Rev. 1, Date: 07/21/2014

WELL DEVELOPMENT LOG

amec

Project Name: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177
AMEC Proj No: 775290177. 0300, 300B
Installation/Site: Former Myrtle Beach AFB / FT016P
Date: 22 July 2015
Sample Technician: A. Smits
Location ID (Well ID): FT016P-02

Measurements

Initial Well Total Depth: ~~16.59~~ 17.65 ft below TOC
Initial Water Level: 10.25 ft below TOC @ 1801
(dynamic) Final Water Level: 10.73 ft below TOC pumping
Calculated Well Volume: ~ 4 Gallons (3)
Well Diameter: 2 inches

Calculations: 1" diameter = 0.041 gal/ft 2" diameter = 0.163 gal/ft 4" diameter = 0.653 gal/ft

Well Purging Activites

Purging Method (pump type): bailer / mega monsoon Flow rate (incl. units): varies (see below)

Time	Flow Rate (ml/min)	Turbidity (NTUs)	Temp (°C)	Cond. (mS/Cm)	pH	Salinity (%)	DO (mg/l)	ORP	Total Gal Pumped	Comments	DTW
1816	–	– (4)	–	–	–	–	–	–	3	bailed 3 g	10.32 (1)
1824	–	–	–	–	–	–	–	–	~~3~~ 6	bailed 3 g	10.26 (1)
1840	–	–	–	–	–	–	–	–	12	bailed 6 g	10.20
1845	recovery	–	–	–	–	–	–	–	12	–	10.30 AS
1901	–	–	–	–	–	–	–	–	12	Start pump @ 9V	10.30 28 (2)
1905	n.m.	641	22.73	.239	4.13	–	1.00	170	~12.5		
1907	n.m.	>1000	21.18	.237	3.98	–	0.00	103	13	↑ 10 V	10.61
1909	n.m.	>1000	20.81	.238	3.96	–	0.00	93	14		10.70
1910	n.m.	–	–	–	–	–	–	–	14.5	↑ 12V	
1912	n.m.	–	–	–	–	–	–	–	15.25		10.85
1915	48 floz/30s	~.75 gpm									
1920	"	–	–	–	–	–	–	–	–	pump @ 3.5 ft off bottom	
1923	n.m.	>1000	20.35	0.236	3.92	–	0.00	66	18.5	12.3 V	10.90
1926	5 gal/46s	~.71 gpm								12.3 V	
1930	"	–	–	–	–	–	–	–	24.5	12.3V	
1931	18 gal/90s	854	20.28	.237	3.91	–	0.00	64	26	12.3V	10.90
1933	"	–	–	–	–	–	–	–	27	12.3V	10.90
Results At End Of Purging:										AS 22 gal 15	

COMMENTS:
(1) Sulphurous odor
(2) Pump set to 1 ft off bottom
(3) 2-in. ID casing + sat. filter => 0.543 gal/sat. ft
(4) Not measured during bailing

QAQC'd by: Date:

WELL DEVELOPMENT LOG

amec

Project Name: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177
AMEC Proj No: 775290177. 0300, 300B
Installation/Site: Former Myrtle Beach AFB / FT016P
Date: 22 July 2015
Sample Technician: A. Smits
Location ID (Well ID): FT016P.02

Measurements

Well Total Depth: 17.65 ft below TOC
Initial Water Level: 10.25 ft below TOC
Final Water Level: 10.77 ft below TOC (dynam.)
Calculated Well Volume: ~4 Gallons
Well Diameter: 2 inches
Calculations: 1" diameter = 0.041 gal/ft 2" diameter = 0.163 gal/ft 4" diameter = 0.653 gal/ft

Well Purging Activites

Purging Method (pump type): bailer / mega monsoon
Flow rate (incl. units): varies

Time	Flow Rate (ml/min)	Turbidity (NTUs)	Temp (°C)	Cond. (mS/Cm)	pH	Salinity (%)	DO (mg/l)	ORP	Total Gal Pumped	Comments	DTW
1941	1 gal / 90 s	678	20.20	.238	3.96	-	0.0	59	33	12.3 V	10.91
1944	.5g / 44s	n.m.	-	-	-	-	-	-	-	↓ 11.5V	
1945	"	540	20.24	0.239	4.12		0.00	49	36	↓ 11V	10.82
1950	"	473	20.24	0.241	4.29	-	0.0	59	42	11 V	10.81
1954	.5g / 45s	n.m.	n.m.	n.m.	n.m.	-	n.m.	n.m.	44.5		10.80
2000	.5g / 60s	n.m.	n.m.	n.m.	n.m.	-	n.m.	n.m.	n.m.	↓ 10.8V	
2002	"	346	20.29	.241	4.29	-	0.00	37	50.5		
2014	"	252	20.25	243	4.28	-	0.00	35	56.5		10.73
2020	"	221	20.24	.243	4.28	-	0.00	35	-	10. V	10.73 ①
2025	"	193	20.24	.242	4.27	-	0.00	35	62.5		10.73
2030	"	152	20.20	.243	4.28	-	0.00	34	-	10 V	10.73
2035	"	152	20.21	.244	4.29	-	0.00	32	68.5		10.73
2040	"	136	20.19	.244	4.31	-	0.00	30	-	10V	10.73
2045	"	120	20.23	.245	4.31	-	0.00	30	74.5		10.73
2050	"	106	20.13	.245	4.29	-	0.00	29	-	10V	10.73
2055	"	95.9	20.19	.246	4.31	-	0.00	27	80.5	10V	10.73
2100	"	89.7	20.17	.245	4.31	-	0.00	27	83	10V	10.73
Results At End Of Purging:		89.7	20.17	0.245	4.31	-	0.00	27	83		

COMMENTS: ① water is straw-colored with a strong sulphurous odor.

Shut down pump at 2100 after removing 83 gal

QAQC'd by: Date:

WELL DEVELOPMENT LOG

amec

Project Name: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177
AMEC Proj No: 775290177. 0300, 300B
Installation/Site: Former Myrtle Beach AFB / FT016P
Date: 21 July 2015
Sample Technician: A. Smits
Location ID (Well ID): FT016P-03

Measurements

Well Total Depth: 17.84 ft below TOC
Initial Water Level: 10.53 ft below TOC
Dynamic Final Water Level: 11.15 ft below TOC
Calculated Well Volume: ~4 Gallons (4)
Well Diameter: 2 inches nominal ID casing
Calculations: 1" diameter = 0.041 gal/ft 2" diameter = 0.163 gal/ft 4" diameter = 0.653 gal/ft

Well Purging Activites

Purging Method (pump type): bailer / mega monsoon
Flow rate (Incl. units): (see below)

Time	Flow Rate (ml/min)	Turbidity (NTUs)	Temp (°C)	Cond. (mS/Cm)	pH	Salinity (%)	DO (mg/l)	ORP (2)	Total Gal Pumped	Comments	Depth to Water (ft)
1145	–	–	–	–	–	–	–	–	8	bailed	–
1215	–	>1900	23.48	0.528	5.15	–	–	–	8.5		–
1218	–	>1000	22.23	0.549	5.16	–	1.72	–	10.0		–
1221	–	>1000	21.87	0.545	5.12	–	1.35	–	12.0		11.17
1225	–	515	21.77	0.513	5.13	–	1.30	–	14.0		11.18
1229	0.75 gpm (1)	249	21.77	0.542	5.13	–	1.23	–	16.0	Controller @ 145 ✓	11.18
1232	"	156	21.71	0.538	5.14	–	1.19	–	18.0		11.15
1237	"	76.9	21.67	0.535	5.14	–	1.13	–	22.0		11.20
1242	"	39.4	21.76	0.533	5.16	–	1.10	–	26.0		11.13
1247	"	26.1	21.73	0.529	5.18	–	1.09	–	29.0		11.14
1252	"	13.8	21.70	0.528	5.20	–	1.07	–	32.0		11.18
1257	"	9.3	21.71	0.527	5.21	–	1.07	–	35.0	(3)	11.15
1300	–	–	–	–	–	–	–	–	–	Pull pump	n.m.
Results At End Of Purging:		9.3	21.71	0.527	5.21	–	1.07	–	35.		

COMMENTS: Set pump intake to approx 14.8 ft TOC
(1) meas. using stopwatch and graduated bucket
(2) ORP probe inoperative at time of development
(3) Development complete at 1257
(4) 2-in. casing + sat. filter ⇒ 0.54 gal / lin. sat. ft

QAQC'd by: Date:

WELL DEVELOPMENT LOG

amec

Project Name: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177
AMEC Proj No: 775290177. 0300, 300B
Installation/Site: Former Myrtle Beach AFB / FT016P
Date: 21 July 2015
Sample Technician: A. Smits
Location ID (Well ID): FT016P-04

Measurements

Well Total Depth: 17.35 ft below TOC
Initial Water Level: 9.76 ft below TOC @ 1510
Final Water Level: — ft below TOC
Calculated Well Volume: ~4.1 Gallons ①
Well Diameter: 2 inches

Calculations: 1" diameter = 0.041 gal/ft 2" diameter = 0.163 gal/ft 4" diameter = 0.653 gal/ft

Well Purging Activites

Purging Method (pump type): bailer / mega monsoon pump
Flow rate (incl. units): (see below) (incr.)

Time	Flow Rate (ml/min)	Turbidity (NTUs)	Temp (°C)	Cond. (mS/Cm)	pH	Salinity (%)	DO (mg/l)	ORP	~~Total~~ Gal Pumped	Comments	DTW H_2O
1538	–								3 *	bailed 3gal	9.81
1548	–								3*	bailed 3gal	9.79
1600	–								–	set pump to 13.6 ft TOC (intake 9.80)	
1605	–								–	–	
1610	–	not measured during bailing							–	start @ 14.5V	
1615	–								3	14.5V	10.18
1625	n.m.	656	22.42	0.449	5.82	–	2.44		3+		10.22
1630	n.m.	405	22.42	0.449	5.81	–	2.01		3		10.24
1635	n.m.	327	22.31	0.449	5.81	–	1.85		3.5		–
1640	n.m.	239	22.30	.449	5.79	–	1.60		3.5		10.23
1644	timed @ 1gal/min		1gal/20sec						–		–
1645	n.m.	186	22.29	.450	5.81	–	1.44		3.75		10.23
1650	n.m.	136	22.22	.450	5.81	–	1.38		3.75		10.22
1700	n.m.	109	22.26	.452	5.83	–	1.34		7.5		10.23
1710	n.m.	81.4	22.22	.451	5.85	–	1.20		7.5		10.22
1720	n.m.	70.0	22.17	.452	5.83	–	1.18		7.5		10.22
1730	n.m	38.3	22.17	.449	5.84	–	1.20		7.5		10.23
Results At End Of Purging:											

COMMENTS:
* gently surged w/ bailer
U-5000 22X40KXT w/ open cup for flowcell
① 2-in. casing + sat. filter ⇒ ~0.54 gal/sat. ft

QAQC'd by: Date:

WELL DEVELOPMENT LOG

amec

Project Name: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177
AMEC Proj No: 775290177. 0300, 300B
Installation/Site: Former Myrtle Beach AFB / FT016P
Date: 21 July 2015
Sample Technician: A Smith
Location ID (Well ID): FT016P-04

Measurements

Well Total Depth: 17.35 ft below TOC
Initial Water Level: 9.76 ft below TOC
(Dynamic) Final Water Level: 10.23 ft below TOC
Calculated Well Volume: ~4.1 Gallons
Well Diameter: 2 inches
Calculations: 1" diameter = 0.041 gal/ft 2" diameter = 0.163 gal/ft 4" diameter = 0.653 gal/ft

Well Purging Activites

Purging Method (pump type): bailer / mega monsoon
Flow rate (incl. units): (see below)

Time	Flow Rate (ml/min)	Turbidity (NTUs)	Temp (°C)	Cond. (mS/Cm)	pH	Salinity (%)	DO (mg/l)	ORP	Total Gal Pumped	Comments	DTW
1740	459ml/30sec	30.4	22.17	449	5.84	-	1.16	-	7.5	Devel. comp	10.23
1742	"	"	"	"	"	"	"	"		Pull pump	
1745	"	"	"	"	"	"	"	"			9.73
1750	"	"	"	"	"	"	"	"			9.74
1806 ~~1805~~	"	"	"	"	"	"	"	"			9.73
1806											~~9.85~~
Results At End Of Purging:		30.4	22.17	449	5.84	-	1.16	-	67		

21 July 15

COMMENTS:

QAQC'd by: Date:

WELL DEVELOPMENT LOG

amec

Project Name: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177
AMEC Proj No: 775290177. 0300, 300B
Installation/Site: Former Myrtle Beach AFB / FT016P
Date: 7-22-15
Sample Technician: EVER GUILLEN
Location ID (Well ID): FT016P-05

Measurements

(Initial) Well Total Depth: 17.46 ft below TOC
Initial Water Level: 7.84 ft below TOC
(Dynam.) Final Water Level: 8.89 ft below TOC

17.46 - 7.84 = 9.61 X .17 = 1.63 x 3 = 4.90 gal incl. filter
Calculated Well Volume: 1.63 Gallons
Well Diameter: 2" inches

Calculations: 1" diameter = 0.041 gal/ft 2" diameter = 0.163 gal/ft 4" diameter = 0.653 gal/ft

Well Purging Activites

Purging Method (pump type): BAIL / MONSOON
Flow rate (incl. units): ~0.5 gpm

Time	Flow Rate (ml/min)	Turbidity (NTUs)	Temp (°C)	Cond. (mS/Cm)	pH	Salinity (%)	DO (mg/l)	ORP	Total Gal Pumped	Comments	DTW
1640	BAILED	-	-	-	-	-	-	-	6.0	GRAY SILTY SAND	
1655	0.5 GPM	<1000	26.13	0.608	5.62	-	-	-	7.0		8.89
1658		<1000	25.78	0.595	5.66	-	-	-	8.0		8.84
1802		<1000	25.58	0.556	5.69	-	-	-	9.0		8.85
1806		718	25.37	0.514	5.72	-	1.81	-	12.0		8.85
1811		701	25.41	0.495	5.75	-	1.63	-	15.0		8.86
1816		289	25.83	0.468	5.77	-	1.45	-	18.0	CLEARING-	8.86
1823		134	22.03	0.449	5.77	-	1.27	-	21.0		8.86
1829		183	24.33	0.479	5.76	-	1.37	-	24.0		8.87
1835		103	24.22	0.466	5.76	-	1.32	-	27.0		8.88
1842		72.8	24.26	0.470	5.77	-	1.28	-	30.0		8.88
1849		46.3	24.17	0.459	5.75	-	1.26	-	33.0	YELLOWISH / ODOR	8.88
1756		37.6	24.16	0.458	5.73	-	1.24	-	36.0		8.89
1804		42.8	24.07	0.459	5.74	-	1.20	-	39		8.89
1810		31.6	24.04	0.453	5.72	-	1.19	-	42		8.89
1817		23.3	24.06	0.456	5.72	-	1.18	-	45		8.89
1824		16.1	24.07	0.453	5.72	-	1.16	-	48		8.89
Results At End Of Purging:		16.1	24.07	0.453	5.72	-	1.16	-	48		

COMMENTS: SILTY GRAY SAND - SOFT BOTTOM - BAILED 6 GALS. - ± 3/4" OF SILTY SAND @ BOTTOM of 5 GAL BUCKET
HARD BOTTOM after removing 6.0 Gals - Will Pump - SET PUMP 4 FT ABOVE BOTTOM OF WELL
Pumped 42 Gallons - Cleared to 16.1 NTU - Water Has YELLOWISH COLOR & STRONG ODOR-

QAQC'd by: Date:

WELL DEVELOPMENT LOG

amec

Project Name: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177
AMEC Proj No: 775290177. 0300, 300B
Installation/Site: Former Myrtle Beach AFB / FT016P
Date: 22 Jul 2015
Sample Technician: A. Smits
Location ID (Well ID): FT016P-06

Measurements

Initial Well Total Depth: 13.97 ft below TOC
Initial Water Level: 8.27 ft below TOC @ 1440 hr
Final Water Level: 9.86 ft below TOC @ 1718 (4)
Dynamic water level 11.39 ft TOC
Calculated Well Volume: ~3.1 Gallons (3)
Well Diameter: 2 Inches

Calculations: 1" diameter = 0.041 gal/ft 2" diameter = 0.163 gal/ft 4" diameter = 0.653 gal/ft
(2) 2 in well ≅ .54 gal / ft sat. filter pack

Well Purging Activites

Purging Method (pump type): bailer / Mega monsoon Flow rate (incl. units): See below

Time	Flow Rate (ml/min)	Turbidity (NTUs)	Temp (°C)	Cond. (mS/Cm)	pH	Salinity (%)	DO (mg/l)	ORP	Total Gal Pumped	Comments	Depth to H_2O
1504 1455	AS	–	–	–	–	–	–	–	3	bailed 3g	10.87
1510	recovery	–	–	–	–	–	–	–	–		10.00
1515		–	–	–	–	–	–	–	4.5	bailed 1.5g	11.15
1523	recovery	–	–	–	–	–	–	–	4.5		10.00
1530	–	–	–	–	–	–	–	–	4.5	(1)	9.40
1543	recovery	–	–	–	–	–	–	–	4.5	Start pump @ 10V	9.00
1554	–	–	–	–	–	–	–	–	4.5	start pump @ AS 10V	8.80
1604	8floz/30s	>1000 (2)	25.84	.052	4.33	–	1.62	132	5.5	7.8V	9.73
1610	"	>1000 (2)	25.88	.053	4.19	–	1.26	144	6.3	7.8V	n.m.
1614	"	>1000 (2)	25.31	.053	4.06	–	0.33	–	6.5	8V	10.02
1618	8oz/30s	>1000 (2)	24.32	.052	4.00	–	1.07	162	7.0	8.2V - 7.7V	>11 ft (3)
1625	"	>1000 (2)	23.84	.053	3.84	–	0.0	–	8.5	7.5V	10.52
1640	"	>1000 (2)	23.37	.051	3.91	–	0.72	184	9.5	7.7V	11.22
1650	"	>1000 (2)	23.02	.052	3.88	–	0.0	173	–	7.8V	11.13
1700	8oz/30s	>1000 (2)	23.02	.051	3.87	–	0.0	172	12.75	7.8V	11.32
1710	"	>1000 (2)	22.86	.052	3.88	–	0.0	161	13.5	7.8V	11.39
1710	Shut down pump.	–	–	–	–	–	–	–	–	–	n.m.
Results At End Of Purging:			22.86	0.052	3.88	–	0.0	161	13.5		

COMMENTS:
(1) Pump set w/ intake at 12.5 ft TOC
(2) NTUs exceed capability of instrument
(3) Pumping rate reduced to 8 oz/30s after increase to 8.2V
(4) DTW rising

QAQC'd by: Date:

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APPENDIX B-8

Groundwater Sample Collection Logs

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amec foster wheeler

AMEC Environment & Infrastructure
10670 White Rock Road, Suite 100
Rancho Cordova, CA, 95670
(916) 853-8929

SHIP TO:
Accutest
4405 Vineland Road, Suite C-15
Orlando, Florida 32811
Atten: Andrea Colby
Lab Phone# 386-615-8479

CHAIN OF CUSTODY

DATE: 7/24/2015
COC #: MYRTL150724A
PAGE: 1 OF 1

Project Name:	Plattsburgh AFB	Project Contact:	Danielle Lerner	Bill To:	AMEC Environment & Infrastructure	Disposal Instructions:	LAB
Project Number:	775290177	Phone Number:	(207) 828-3535		Quorum Office Park, 271 Mill Road	Shipment Method:	FEDEX
Project Manager:	Melissa Helton	Project Phase:	0010.0300B		Chelmsford, MA 01824	Waybill Number:	N/A

Sample Information						Methods for Analysis	RUSH					
No.	Sample ID	Date & Time Sampled	Matrix	Sample Type	MS/MSD	PFCs (LC/MS/MS)	24 Hour	48 Hour	72 Hour	5 Days	TOTAL BOTTLES	HOLD All Analyses
1	MYRTL-GW-001	07/23/15	GW	N	N	X					2	
2	MYRTL-GW-002	7/24/2015	GW	N	Y	X					2	
3	MYRTL-GW-003	07/23/15	GW	N	N	X					2	
4	MYRTL-GW-004	07/23/15	GW	FD	N	X					2	
5	MYRTL-GW-005	07/23/15	GW	N	N	X					2	
6	MYRTL-GW-006	07/23/15	GW	N	N	X					2	
7	MYRTL-GW-007	07/24/15	GW	N	N	X					2	
8	MYRTL-GW-008	07/23/15	GW	N	N	X					2	
9	MYRTL-FT106P-BLK04	07/23/15	WQ	N	N	X					2	
10	MYRTL-FT106P-BLK05	7/24/2015	DI	N	N	X					2	
11	MYRTL-SD-001	7/24/2015	SD	N	N	X					1	
12												

Sampler's Signature:		Date: 7/24/15	Time: 1800
Relinquished By/Affiliation: Andrew Smith	Amec F-W	Date: 7/24/15	Time: 1800
Received By: FedEx		Date: 7/24/15	Time: 1800
Relinquished By/Affiliation:		Date:	Time:
Received By:		Date:	Time:
Relinquished By/Affiliation:		Date:	Time:
Received By (LAB):		Date:	Time:

For Lab Use

Does COC match samples:	Y or N
Broken Container:	Y or N
COC seal intact:	Y or N
Other problems:	Y or N
WSDOT contacted:	Y or N
Date contacted:	
Cooler Temperature at receipt:	℃

Comments:
X=Analyze H=Hold Analysis Request

NUMBER OF COOLERS SENT:

GROUNDWATER SAMPLE COLLECTION LOG

amec

Project Name: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177
AMEC Proj No: 775290177. 0300, 300B
Installation/Site: Former Myrtle Beach AFB / FT016P
Date: 7-23-15
Sample Technician: EVER GUILLEN
Location ID (Well ID): FT016P-01

Measurements

Well Total Depth: 37.75 ft below TOC
Initial Water Level: 8.93 ft below TOC
Final Water Level: 9.08 ft below TOC at sample collectio
37.75 - 8.93 = 28.82 X .17 = 4.89 x 3 = 14.69 (x5 = 24.47)
Calculated ~~Well~~ Casing Volume: 4.89 Gallons
Well Diameter: 2 inches nom.
Calculations: 1" diameter = 0.041 gal/ft 2" diameter = 0.163 gal/ft 4" diameter = 0.653 gal/ft

Well Purging Activites

PUMP SET @ 33' BTOC

Sampling Method (pump type): PERISTALTIC
Flow rate (incl. units): 200 ML/MI

Time	Flow Rate (ml/min)	Depth to Water (ft. TOC)	Turbidity (NTUs)	Temp (°C)	Cond. (mS/Cm)	pH	Salinity (%)	DO (mg/l)	ORP	Total Gal Pumped	Comments
850	200	9.02	188.0	25.21	0.305	5.97	—	6.68	11	0.25	
855	200	9.02	141.0	24.14	0.307	6.09	—	6.97	-7.0	0.5	CLEARED FLOW CELL
900	↓	9.02	79.2	24.27	0.310	6.17	—	7.07	-36	0.75	
905		9.02	52.1	23.17	0.311	6.08	—	4.01	-31	1.0	
910		9.08	41.7	22.61	0.312	6.03	—	2.15	-27	1.25	
915		9.11	32.2	22.57	0.313	6.0	—	1.67	-25	1.5	
920		9.11	34.9	22.49	0.313	5.99	—	1.54	-32	1.75	
940		9.08	14.4	23.18	0.318	5.93	—	1.61	-35	2.75	
945		9.08	9.0	23.36	0.321	5.92	—	1.58	-35	3.0	
950	↓	9.08	7.2	23.28	0.322	5.92	—	1.57	-36	3.25	
955		9.08	6.1	23.48	0.326	5.91	—	1.52	-37	3.5	
1000	Collect Sample										
Results During Sample Collection:			6.1	23.48	0.326	5.91	—	1.52	-37	3.5	

23 jul 2015

Sample ID: MYRTL-GW-001
Sample Collection Time: 1000
Sample bottle type: 125 ML (2x) ~~PLASTIC~~ HDPE AS
Analysis/Method: PFCs (LC/MS/MS)
Preservative: NONE - Cool 4°c
Water Quality (circle one): (Clear) Cloudy Turbid Other _____

COMMENTS: 0830 - SET @ WELL - 0845 BEGIN PURGING - 920 - BASE SECURITY CHECKS ON US.
940 - Continue Readings - 1000 Collect SAMPLE - PLACED SAMPLE ON ICE.

QAQC'd by: Date:

GROUNDWATER SAMPLE COLLECTION LOG

amec

Project Name: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177
AMEC Proj No: 775290177. 0300, 300B
Installation/Site: Former Myrtle Beach AFB / FT016P
Date: 24 July 2015
Sample Technician: A. Smith
Location ID (Well ID): FT016P-002

Measurements

Well Total Depth: 17.55 ft below TOC
- 10.01
7.54 / 2 = 3.75 ft for midpoint
Calculated ~~Well~~ casing Volume: ~1.23 Gallons

Initial Water Level: 10.01 ft below TOC @ 0815
Final Water Level: 10.08 ft below TOC @ sample collection
Well Diameter: 2 inches nom.

Calculations: 1" diameter = 0.041 gal/ft 2" diameter = 0.163 gal/ft 4" diameter = 0.653 gal/ft

Well Purging Activites

Sampling Method (pump type): peristaltic
Flow rate (incl. units): ~300 ml/min

Time	Flow Rate (ml/min)	Depth to Water (ft. TOC)	Turbidity (NTUs)	Temp (°C)	Cond. (mS/Cm)	pH	Salinity (%)	DO (mg/l)	ORP	Total Gal Pumped	Comments
0815	—	10.01	—	—	—	—	—	—	—	0	—
0830	—	-	-	-	-	—	—	—	—	0	Set intake to 13.8 ft
0835	—	10.05	-	—	—	—	—	—	—	0	—
0855	—	10.08	-	—	—	-	—	—	—	0	Start pump
0859	—	—	-	—	—	—	—	—	—	0	adjust tubing
0920	—	10.02	—	—	—	—	—	—	—	0	re start pump
0924	300	10.08	146	23.71	.254	4.92	-	1.42	-105	<1	
0925	300	10.08	200	22.14	.240	4.95	-	1.52	-101	<1	
0932	300	10.08	172	21.66	.240	4.84	-	1.94	-81	~1 gal	
0937	300	10.08	142	21.49	.240	4.75	-	0.22	-68	1.5	
0942	300	10.08	120	21.42	.240	4.75	-	0.00	-61	2.0	
0947	300	10.08	97.7	21.49	.240	4.66	-	0.00	-45	2.5	
0952	300	10.08	88.1	21.50	.240	4.61	-	0.00	-39	3.0	
959	300	10.08	71.5	21.53	.240	4.59	-	0.00	-33	3.5	
1004	300	10.08	60.0	21.28	.240	4.55	-	0.00	-29	4.0	
1009	300	10.08	56.5	21.30	.240	4.53	-	0.00	-23	4.5	
1014	300	10.08	49.0	21.25	.240	4.49	-	0.00	-20	5.0	

Results During Sample Collection: cont'd on p. 2

Sample ID: MYRTL-GW-002 Sample Collection Time: 1035

Sample bottle type: 2 x 125 ml HDPE + 4 x 125 ml HDPE for MS/MSD
Analysis/Method: PFCs (22/MS/MS)

Preservative: Cool 4°C

Water Quality (circle one): (Clear) Cloudy Turbid Other _____

COMMENTS: Aliquots include MS/MSD
Set pump intake to ~3.75 ft below static water level. ≅ 13.8 ft TOC

QAQC'd by: Date:

GROUNDWATER SAMPLE COLLECTION LOG

amec

Project Name: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177
AMEC Proj No: 775290177.0300, 300B
Installation/Site: Former Myrtle Beach AFB / FT016P
Date: 24 Jul 2015
Sample Technician: A. Smits
Location ID (Well ID): FT016P-02

Measurements

Well Total Depth: 17.55 ft below TOC
Initial Water Level: 10.01 ft below TOC — 10.08 during purging/collection
Final Water Level: 10.02 ft below TOC @ 1100
Calculated ~~Well~~ casing Volume: ~1.23 Gallons
Well Diameter: 2 inches nominal

Calculations: 1" diameter = 0.041 gal/ft; 2" diameter = 0.163 gal/ft; 4" diameter = 0.653 gal/ft

Well Purging Activites

Sampling Method (pump type): Peristaltic w/ poly tub. Flow rate (incl. units): 300 ml/min

Time	Flow Rate (ml/min)	Depth to Water (ft. TOC)	Turbidity (NTUs)	Temp (°C)	Cond. (mS/Cm)	pH	Salinity (%)	DO (mg/l)	ORP	Total Gal Pumped	Comments
1019	300	10.08	46.5	21.26	0.240	4.42	-	0.00	-13	5.5	①
1024	300	10.08	47.2	21.26	0.240	4.36	-	0.00	-4	6.0	①
1029	300	10.08	42.7	21.34	.240	4.52	-	0.00	-15	6.5	①
1035	300	10.08	41.8	21.32	.240	4.49	-	0.00	-9	7.0	①②

GROUNDWATER SAMPLE COLLECTION LOG

amec

Project Name: PFCs Release Determination at Multiple BRAC Bases. Contract FA8903-08-8766 Task Order 0177
AMEC Proj No: 775290177. 0300, 300B
Installation/Site: Former Myrtle Beach AFB / FT016P
Date: 7-23-15
Sample Technician: EVER GUILLEN
Location ID (Well ID): FT016P-03

Measurements

Well Total Depth: 17.60 ft below TOC
Initial Water Level: 10.66 ft below TOC
Final Water Level: 10.77 ft below TOC @ collection
17.60 - 10.66 = 6.94 x .17 = 1.17 x 3 = 3.53 (x5 = 5.89)
Calculated ~~Well~~ casing Volume: 1.17 Gallons
Well Diameter: 2" inches nom.
Calculations: 1" diameter = 0.041 gal/ft 2" diameter = 0.163 gal/ft 4" diameter = 0.653 gal/ft
PUMP SET @ 14' BTOC

Well Purging Activites

Sampling Method (pump type): Peristaltic
Flow rate (incl. units): 200 ml / min

Time	Flow Rate (ml/min)	Depth to Water (ft. TOC)	Turbidity (NTUs)	Temp (°C)	Cond. (mS/Cm)	pH	Salinity (%)	DO (mg/l)	ORP	Total Gal Pumped	Comments
1120	200	10.79	108	23.33	0.502	5.38	—	1.39	61		0.5
1125		10.79	137	23.14	0.500	5.90	—	1.37	58		0.75
1130		10.79	184	23.49	0.508	5.43	-	1.31	54		1.0
1135		10.79	116	23.59	0.516	5.45	—	1.25	48		1.25
1140		10.79	70.5	23.61	0.522	5.46	—	1.21	44		1.5
1145		10.79	36.8	24.33	0.521	5.46	—	1.23	43		1.75
1150		10.79	18.9	24.99	0.520	5.45	—	1.22	45		2.0
1155		10.78	11.2	25.06	0.521	5.46	—	1.20	44		2.25
1205	200	10.77	7.1	25.16	0.519	5.45	—	1.19	45		2.75
1210	COLLECT	SAMPLE									

23 Jul 2015

Results During Sample Collection:

Sample ID: MYRTL-GW-003
Sample Collection Time: 1210
Sample bottle type: 2-125 ML ~~Plastic~~ HDPE As
Analysis/Method: PFCs (LC/MS/MS)
Preservative: None Cool 4°C
Water Quality (circle one): (Clear) Cloudy Turbid Other

COMMENTS: 1100 - Set up @ well - 1110 BEGIN PURGE - 1210 COLLECT SAMPLE & Place sample on ICE.

QAQC'd by: Date:

GROUNDWATER SAMPLE COLLECTION LOG

amec

Project Name: PFCs Release Determination at Multiple BRAC Bases
Contract FA8903-08-8766 Task Order 0177
AMEC Proj No: 775290177.0300, 300B
Installation/Site: Former Myrtle Beach AFB / FT016P
Date: 7-23-15
Sample Technician: EVER GUILLEN
Location ID (Well ID): MYRTL-FT016-04

Measurements

Well Total Depth: 12.17 ft below TOC
Initial Water Level: 9.86 ft below TOC
Final Water Level: 9.92 ft below TOC @ collection
17.17 - 9.86 = 7.31 x .17 = 1.24 x 3 = 3.72 (x5 = 6.21)
Calculated ~~Well~~ casing Volume: 1.24 Gallons
Well Diameter: 2 inches nom.
Calculations: 1" diameter = 0.041 gal/ft 2" diameter = 0.163 gal/ft 4" diameter = 0.653 gal/ft

Well Purging Activites

PUMP SET @ 14.0' BTOC

Sampling Method (pump type): Peristaltic
Flow rate (incl. units): 200 ml/min

Time	Flow Rate (ml/min)	Depth to Water (ft. TOC)	Turbidity (NTUs)	Temp (°C)	Cond. (mS/Cm)	pH	Salinity (%)	DO (mg/l)	ORP	Total Gal Pumped	Comments
1345	200	9.92	108	27.57	0.496	5.74	—	5.38	40	0.25	
1350		9.92	65.8	26.90	0.482	5.74	—	1.67	15	0.5	
1355		9.92	49.1	28.38	0.460	5.71	—	1.12	9	0.75	
1400		9.92	44.8	28.29	0.457	5.70	—	1.06	7	1.0	
1405		9.92	54.6	28.36	0.432	5.69	—	1.01	5	1.25	TURB. RISING
1410		9.92	56.9	25.77	0.449	5.66	—	1.09	4	1.5	
1415		9.92	59.4	25.56	0.450	5.66	—	1.15	1	1.75	
1420		9.92	44.3	25.67	0.444	5.64	—	1.13	2	2.0	TURB. SETTLING
1425		9.92	41.7	25.63	0.449	5.63	—	1.18	3	2.25	
1430		9.92	32.1	25.56	0.438	5.61	—	1.15	4	2.5	
1435		9.92	28.9	25.65	0.447	5.58	—	1.22	4.0	2.75	
1440		9.92	23.3	26.09	0.434	5.56	—	1.26	6	3.0	
1445		9.92	19.9	26.37	0.445	5.55	—	1.19	7	3.25	
1450		9.92	16.6	26.68	0.433	5.55	—	1.07	7	3.5	
1455		9.92	14.2	26.77	0.433	5.54	—	1.05	7	3.75	
1500		9.92	11.0	26.72	0.435	5.54	—	1.04	7	4.0	
1505	200	9.92	8.8	26.53	0.432	5.54	—	1.04	6	4.25	
1510 Results During Sample Collection:			7.9	26.11	0.435	5.54	—	1.11	7	4.5	

Sample ID: MYRTL-GW-005 Sample Collection Time: 1510
ALSO COLLECTED DUP — ID = MYRTL-GW-004 (1)
Sample bottle type: 2-125 ML PLASTIC Analysis/Method: PFCs (LC/MS/MS)
Preservative: None Cool 4°C
Water Quality (circle one): (Clear) Cloudy Turbid Other

COMMENTS: 1320 SET UP @ WELL - 1340 Begin Purging - 1510 COLLECTED SAMPLE & PLACED ON ICE.
(1) Sample MYRTL-GW-004 collected in 2x 250ml HDPE containers (Field duplicate)

QAQC'd by: Date:

GROUNDWATER SAMPLE COLLECTION LOG

amec

Project Name: PFCs Release Determination at Multiple BRAC Bases. Contract FA8903-08-8766 Task Order 0177
AMEC Proj No: 775290177. 0300, 300B
Installation/Site: Former Myrtle Beach AFB / FT016P
Date: 7-23-15
Sample Technician: EVER GUILLEN
Location ID (Well ID): MYRTL-FT016-05

Measurements

Well Total Depth: 17.46 ft below TOC
Initial Water Level: 8.58 ft below TOC
17.46 - 8.58 = 8.87 x .17 = 1.50 x 3 = 4.52 (x5 = 7.54)
Final Water Level: 8.66 ft below TOC @ collection
Calculated ~~Well~~ Casing Volume: 1.50 Gallons
Well Diameter: 2 inches
Calculations: 1" diameter = 0.041 gal/ft 2" diameter = 0.163 gal/ft 4" diameter = 0.653 gal/ft

PUMP SET @ 13.0' BTOC

Well Purging Activites

Sampling Method (pump type): PERISTALTIC
Flow rate (incl. units): 200 ML/MIN

Time	Flow Rate (ml/min)	Depth to Water (ft. TOC)	Turbidity (NTUs)	Temp (°C)	Cond. (mS/Cm)	pH	Salinity (%)	DO (mg/l)	ORP	Total Gal Pumped	Comments
1600	200	8.66	32.2	29.60	0.688	5.77	—	0.94	-31	.25	
1605		8.66	41.8	29.34	0.692	5.79	—	0.93	-36	.5	TRB TURB RISING
1610		8.66	27.1	29.19	0.700	5.79	—	0.95	-40	.75	
1615		8.66	142.0	28.87	0.697	5.81	—	0.91	-46	1.0	
1620		8.66	155.0	28.50	0.698	5.82	—	0.92	-49	1.25	
1625		8.66	174	28.36	0.710	5.82	—	0.91	-51	1.5	
1630		8.66	193	27.82	0.716	5.83	—	0.98	-52	1.75	
1635		8.66	122	28.14	0.716	5.83	—	0.89	-53	2.0	
1640		8.66	57.5	28.11	0.720	5.84	—	0.87	-56	2.25	
1645		8.66	20.1	26.78	0.730	5.84	—	0.92	-59	2.5	
1650		8.66	13.3	26.74	0.731	5.84	—	0.91	-59	2.75	
1655	200	8.66	7.6	26.72	0.730	5.84	—	0.91	-59	3.0	
1700	Collect Sample										
Results During Sample Collection:			7.6	26.72	0.730	5.84	—	0.91	-59	3.0	

Sample ID: ~~MYTRB~~ MYRTL-GW-006 Sample Collection Time: 1700
Sample bottle type: 2 x ~~125ml~~ 250 AS ① HDPE Analysis/Method: PFCs (LC/MS/MS)
Preservative: None Cool 4°C
Water Quality (circle one): (Clear) Cloudy Turbid Other HAS YELLOWISH TINT

COMMENTS: 1545 SET @ WELL - 1555 BEGIN PURGING - WATER HAS BROWNISH YELLOW TINT
1700 - COLLECT SAMPLE & PLACE ON ICE.
① 125 ml bottles not available at time sample was collected.

QAQC'd by: Date:

Groundwater Sample Collection Log
Rev. 1, Date: 07/21/2014

GROUNDWATER SAMPLE COLLECTION LOG

amec

Project Name: PFCs Release Determination at Multiple BRAC Bases. Contract FA8903-08-8766 Task Order 0177
AMEC Proj No: 775290177. 0300, 3008
Installation/Site: Former Myrtle Beach AFB / FT016P
Date: 7-24-15
Sample Technician: EVER GUILLEN
Location ID (Well ID): FT016P-06

Measurements

Well Total Depth: 13.97 ft below TOC
Initial Water Level: 8.19 ft below TOC
Final Water Level: 9.07 ft below TOC @ collection

13.97 - 8.19 = 4.98 X .17 = 0.84 X 3 = 2.53 (X5 = 4.23)

Calculated ~~Well~~ casing Volume: 0.84 Gallons
Well Diameter: 2 inches

Calculations: 1" diameter = 0.041 gal/ft 2" diameter = 0.163 gal/ft 4" diameter = 0.653 gal/ft

PUMP SET @ 12' BTOC

Well Purging Activites

Sampling Method (pump type): PERISTALTIC
Flow rate (incl. units): 200 ML/MIN

Time	Flow Rate (ml/min)	Depth to Water (ft. TOC)	Turbidity (NTUs)	Temp (°C)	Cond. (mS/Cm)	pH	Salinity (%)	DO (mg/l)	ORP	Total Gal Pumped	Comments
905	200	8.31	53.7	24.84	0.086	4.17	—	3.24	241	0.25	
910	[illegible]	8.66	63.3	25.18	0.071	3.83	—	2.62	318	0.5	
915	200	8.77	107	25.22	0.066	3.90	—	2.10	291	0.75	
920	200	8.85	111	25.19	0.066	3.87	—	2.03	293	1.0	
925	200	8.88	119	25.13	0.066	3.87	—	1.97	291	1.25	
930	200	8.90	135	25.09	0.068	3.88	—	1.82	287	1.5	
940	200	8.98	130	24.96	0.068	3.84	—	1.56	286	2.0	
945	200	9.01	128	24.87	0.069	3.83	—	1.58	285	2.25	
950	200	9.03	137	24.86	0.069	3.81	—	1.51	288	2.5	
955	200	9.05	129	24.80	0.070	3.80	—	1.47	289	2.75	
1000	200	9.07	128	24.71	0.070	3.78	—	1.49	291	3.0	
1005	200	9.07	122	24.61	0.071	3.76	—	1.44	294	3.25	
1010	200	9.07	120	24.59	0.071	3.73	—	1.42	296	3.5	
1015	200	9.07	119	24.57	0.072	3.71	—	1.40	299	3.75	
1020	200	9.07	122	24.58	0.072	3.70	—	1.39	300	4.0	
1025	200	9.07	120	24.56	0.072	3.71	—	1.38	298	4.25	
1030	200	9.07	122	24.60	0.073	3.70	—	1.35	302	4.5	
Results During Sample Collection: 1035			119	24.61	0.073	3.69	—	1.35	302	4.6	

Sample ID: MYRTL-GW-007
Sample Collection Time: 1035
Sample bottle type: 2-125 ML PLASTIC
Analysis/Method: PFCs (LC/MS/MS)
Preservative: NONE
Water Quality (circle one): Clear Cloudy (Turbid) Other

COMMENTS: 0840 - SET UP TO PURGE WELL - 0900 BEGIN PURGING - 0910 - WATER LEVEL DROPING GEO PUMP STOPS WHEN FLOW RATE IS SET BELOW 200ML/MIN. -
1035 COLLECTED SAMPLE -
1105 - AFTER COLLECTING SAMPLE, SURGED WELL USING THE SAMPLING TUBING & THEN REMOVED ± 2.5 GALLONS FROM WELL - FINAL DTW = 10.35 - this was done in attempt to improve well performance and lower turbidity during subsequent sampling.

QAQC'd by: Date:

GROUNDWATER SAMPLE COLLECTION LOG

amec

Project Name: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177
AMEC Proj No: 775290177. 0300, 300B
Installation/Site: Former Myrtle Beach AFB / FT016P
Date: 23 July 2015
Sample Technician: A. Smits
Location ID (Well ID): ST49-MW02

Measurements

Well Total Depth: 19.38 ft below TOC
- 9.86
9.52 ft H_2O

Initial Water Level: 9.86 ft below TOC @ 1055
Final Water Level: 10.05 ft below TOC @ end of purging

Calculated Well Volume: ~8.43 Gallons (assuming 8-in borehole) Well Diameter: 2 inches nom.

Calculations: 1" diameter = 0.041 gal/ft 2" diameter = 0.163 gal/ft 4" diameter = 0.653 gal/ft

casing volume = (19.38 - 9.86) * .163
= 9.52 * .163
= 1.55 gal

Well Purging Activites

Sampling Method (pump type): bailer / sub. Monsoon pump. Flow rate (incl. units): see below

Time	Flow Rate (ml/min)	Depth to Water (ft, TOC)	Turbidity (NTUs)	Temp (°C)	Cond. (mS/Cm)	pH	Salinity (%)	DO (mg/l)	ORP	Total Gal Pumped	Comments
1106	-	-	-	-	-	-	-	-	-	-	start bailer
1112	-	9.96	-	-	-	-	-	-	-	3	
1128	-	10.25	-	-	-	-	-	-	-	+3	
1136	-	-	-	-	-	-	-	-	-	+3*	
1138	-	9.93	-	-	-	-	-	-	-	9	(9 gals. bailed)
1145	-	-	-	-	-	-	-	-	-	9	set pump intake at 14.88
1255	-	9.92	-	-	-	-	-	-	-	9	
1300	-	-	486	24.80	.089	4.57	-	-	4	9	Start pump
1306	.5gal/6min	10.0	477	22.81	.085	4.38	-	0.45	11	9.5	
1318	300ml	9.98	376	22.80	.082	4.17	-	0.00	11	10.5	
1325	"		293	22.78	.081	4.07	-	0.00	11	11	
1328	250	9.99	174	22.74	.081	4.02	-	0.00	11	11.25	
~~1330~~ 1332	250	10.0	113	22.70	.080	3.96	-	0.00	10	11.5	
1341	250	10.01	75.4	22.66	.081	3.79	-	0.00	8	-	
1355	250	10.05	42.7	22.78	.080	5.59	-	0.00	2	13	
1405	250	-	26.5	22.66	0.080	5.51	-	0.00	-4	13.75	
1414	.5gal/6min	-	-	-	-	-	-	-	-	14.5 ①	
Results During Sample Collection: (see p. 2)			-	-	-	-	-	-	-	-	

DTW
~~10.25~~ 9.96
10.25
9.93
9.92 14.88
10.0
9.99
9.99
10.01
10.05

Sample ID: See p. 2 Sample Collection Time: See p. 2

Sample bottle type: See p. 2 Analysis/Method: See p. 2

Preservative: See p. 2

Water Quality (circle one): Clear Cloudy Turbid Other

COMMENTS: Geopump 12V peristaltic pump, used after bailing ~9 gallons.
Tubing intake set at ~14.5 off bottom of casing
① purged water is straw-colored, strong sulph. odor
② meas. using grad bucket + stopwatch

QAQC'd by: Date:

GROUNDWATER SAMPLE COLLECTION LOG

amec

Project Name: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177
AMEC Proj No: 775290177. 0300, 3008
Installation/Site: Former Myrtle Beach AFB / FT016P
Date: 23 July 2015
Sample Technician: A. Smits
Location ID (Well ID): ST49-MW02

Measurements

Well Total Depth: 19.38 ft below TOC
Initial Water Level: 9.86 ft below TOC
Final Water Level: 10.05 ft below TOC
Calculated ~~Well~~ casing Volume: 1.55 Gallons
Well Diameter: 2 inches nom.
Calculations: 1" diameter = 0.041 gal/ft 2" diameter = 0.163 gal/ft 4" diameter = 0.653 gal/ft

Well Purging Activites

Sampling Method (pump type): bailer/sub. monsoon pump Flow rate (incl. units):

Time	Flow Rate (ml/min)	Depth to Water (ft, TOC)	Turbidity (NTUs)	Temp (°C)	Cond. (mS/Cm)	pH	Salinity (%)	DO (mg/l)	ORP	Total Gal Pumped	Comments
1420	~~1 gal/min~~ ②	10.02	10.8	22.71	0.080	3.42	-	0.00	-15	15	
1432		10.02	10.5	22.71	.079	3.44	-	0.00	-21	~~17~~ 16 AS	
1444		10.06	10.0	22.61	.079	3.45	-	0.00	-30	17	
1451	1 gal/15' ②										
1457	"	10.02	~~10.0~~ 9.8 AS	22.46	.079	3.42	-	0.00	-34	18	
1510	"	10.01	8.4	22.07	.080	3.35	-	0.00	-36	19	
1523	"	10.02	3.9	22.16	.079	3.30	-	0.00	-36	20	
1536	"	10.02	1.9	22.23	.079	3.24	-	0.00	-36	21	
1549	"	10.05	0.0	22.18	079	3.21	-	0.00	-38	22	

GROUNDWATER SAMPLE COLLECTION LOG

amec

Project Name: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177
AMEC Proj No: 775290177. 0300, 300B
Installation/Site: Former Myrtle Beach AFB / FT016P
Date: 23 July 2015
Sample Technician: A. Smits
Location ID (Well ID): MYRTL-FT016P-BLK (Equip. rinsate)

Measurements

Well Total Depth: — ft below TOC
Initial Water Level: — ft below TOC
Final Water Level: — ft below TOC
Calculated Well Volume: — Gallons
Well Diameter: — inches
Calculations: 1" diameter = 0.041 gal/ft 2" diameter = 0.163 gal/ft 4" diameter = 0.653 gal/ft

Well Purging Activites

Sampling Method (pump type): Grab
Flow rate (incl. units): —

Time	Flow Rate (ml/min)	Depth to Water (ft, TOC)	Turbidity (NTUs)	Temp (°C)	Cond. (mS/Cm)	pH	Salinity (%)	DO (mg/l)	ORP	Total Gal Pumped	Comments

23 July 15

Results During Sample Collection:

Sample ID: MYRTL-FT016P-BLK04 Sample Collection Time: 0855
Sample bottle type: 2 x 125ml HDPE Analysis/Method: PFCs (LC/MS/MS)
Preservative: Cool 4°C
Water Quality (circle one): (Clear) Cloudy Turbid Other

COMMENTS:
Equipment rinsate collected across decontaminated Stainless-steel bailer, subsequently used at location ST49-MW02.
Used laboratory-provided PFC-free water

QAQC'd by: Date:

GROUNDWATER SAMPLE COLLECTION LOG

amec

Project Name: PFCs Release Determination at Multiple BRAC Bases.
Contract FA8903-08-8766 Task Order 0177
AMEC Proj No: 775290177. 0300, 300B
Installation/Site: Former Myrtle Beach AFB / FTØ16P
Date: 24 Jul 2015
Sample Technician: A. Smits
Location ID (Well ID): FTØ16P-Ø2

Measurements

Well Total Depth: — ft below TOC
Initial Water Level: — ft below TOC
Final Water Level: — ft below TOC
Calculated Well Volume: — Gallons
Well Diameter: — inches
Calculations: 1" diameter = 0.041 gal/ft 2" diameter = 0.163 gal/ft 4" diameter = 0.653 gal/ft

Well Purging Activites

Sampling Method (pump type): grab
Flow rate (incl. units): n/a - field blank

Time	Flow Rate (ml/min)	Depth to Water (ft. TOC)	Turbidity (NTUs)	Temp (°C)	Cond. (mS/Cm)	pH	Salinity (%)	DO (mg/l)	ORP	Total Gal Pumped	Comments

24 Jul 2015

Results During Sample Collection:

Sample ID: MYRTL-FTØ16P-BLKØ5 Sample Collection Time: 1035
Sample bottle type: ~~4~~ 2 x 125ml HBPE Analysis/Method: PFCs (LC/MS/MS)
Preservative: Cool 4°C
Water Quality (circle one): (Clear) Cloudy Turbid Other

COMMENTS: Field blank collected coincident w/ collection of field sample MYRTL-GW-002. Collected directly from container of lab-provided PFC-free water by pouring from container into 125 ml bottles.

QAQC'd by: Date:

amec foster wheeler

AMEC Environment & Infrastructure
9725 Cogdill Road
Knoxville, TN 37932
(865) 671-6774

SHIP TO:
Accutest
4405 Vineland Road, Suite C-15
Orlando, Florida 32811
Atten: Andrea Colby
Lab Phone# 386-615-8479

CHAIN OF CUSTODY

DATE: 7/16/2015

COC #: MYRTL150716A

PAGE: 1 OF 1

Project Name:	Myrtle Beach AFB	Project Contact:	Andrew Smits	Bill To:	AMEC Environment & Infrastructure	Disposal Instructions:	LAB
Project Number:	775290177	Phone Number:	(770) 421-3421		Quorum Office Park, 271 Mill Road	Shipment Method:	FEDEX
Project Manager:	Melissa Helton	Project Phase:	0003.0300B		Chelmsford, MA 01824	Waybill Number:	N/A

Sample Information						Methods for Analysis	RUSH					
No.	Sample ID	Date & Time Sampled	Matrix	Sample Type	MS/MSD	PFCs (LC/MS/MS)	24 Hour	48 Hour	72 Hour	5 Days	TOTAL BOTTLES	HOLD All Analyses
1	MYRTL-GW-009	07/14/15 16:45	WQ	N	N	X					1	
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												

Sampler's Signature:	Date: 16 Jul 15	Time: 1545
Relinquished By/Affiliation:	Date:	Time:
Received By: Amec Foster Wheeler	Date:	Time:
Relinquished By/Affiliation: Fedex	Date: 16 Jul 15	Time: 1545
Received By:	Date:	Time:
Relinquished By/Affiliation:	Date:	Time:
Received By (LAB):	Date:	Time:

For Lab Use

Does COC match samples:	Y or N
Broken Container:	Y or N
COC seal intact:	Y or N
Other problems:	Y or N
WSDOT contacted:	Y or N
Date contacted:	
Cooler Temperature at receipt:	℃

Comments:
X=Analyze H=Hold Analysis Request

NUMBER OF COOLERS SENT:

GROUNDWATER SAMPLE COLLECTION LOG

amec

Project Name: PFCs Release Determination at Multiple BRAC Bases, Contract FA8903-08-8766 Task Order 0177
AMEC Proj No: 775290177. 0300, 300B
Installation/Site: Former Myrtle Beach AFB / FT016P
Date: 14 Jul 15
Sample Technician: A. Smits
Location ID (Well ID): FT016P-01

Measurements

Well Total Depth: N/A ft below TOC
Initial Water Level: N/A ft below TOC
Final Water Level: N/A ft below TOC
Calculated Well Volume: N/A Gallons
Well Diameter: N/A inches
Calculations: 1" diameter = 0.041 gal/ft 2" diameter = 0.163 gal/ft 4" diameter = 0.653 gal/ft

Well Purging Activites

Sampling Method (pump type): Grab sample from discharge hose on potable water tank.
Flow rate (incl. units): N/A

Time	Flow Rate (ml/min)	Depth to Water (ft, TOC)	Turbidity (NTUs)	Temp (°C)	Cond. (mS/Cm)	pH	Salinity (%)	DO (mg/l)	ORP	Total Gal Pumped	Comments

14 Jul 15

Results During Sample Collection:

Sample ID: MYRTL-GW-0009
Sample Collection Time: 1645
Sample bottle type: 125ml HDPE
Analysis/Method: PFCs (LC/MS/MS)
Preservative: cool 4°C.
Water Quality (circle one): (Clear) Cloudy Turbid Other —

COMMENTS: Sample collected from potable water tank used for water introduced during drilling and well installation at location FT016P-01; also used as potable water for decon and hydrating bentonite for all well locations.

QAQC'd by: Date:

APPENDIX B-9

Well 1 Sample Collection Log

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Myrtle Beach Well #1

11-22-15 N. Barnes 1 of 1

Day - Sunday

weather - cloudy, 37°-57°.

0612 - Head to Myrtle Beach, SC

1421 - Arrive at Well #1 Pump house to verify it's location. Continue on to motel.

1432 - Arrive Motel.

1442 - Time stop, EOD, Out

11-23-15 1 of 3

Day - Monday

weather - 37°-51°, Sunny.

0700 - Calibrate YSI 556 and Turbidity meter.

YSI SN = 14M100423 (AMEC Owned)

pH 7 LOT # 2407988 exp 07/16

~~Cal Result~~

Cal. Result = 7.0

pH 4 LOT # 2407910 exp 07/16

Cal. Result = 3.99

pH 10 LOT # 2501789 exp 07/16

Cal. Result = 10.01

ORP LOT # 8154 exp 10/15

240 MV Cal Result = 241.0

Cond. Lot #

1.413 ms/cm 11504 exp 02/16

Cal Result = 1.413

DO Air Method Result = 100%

Turbidity SN 19L (AMEC owned)

10 NTU Result = 9.98 NTU

0730 - Time stop.

0740 - Time resume, at pump house, setting up equip.

Myrtle Beach well #1

11-23-15 N. Barnes 2 of 3

0815- Worley & Dick on site at pump house - Worley ran pump into storm Drain for sample.

0830- Sampled well #1

Parameters:

Turb = 2.53 NTU
Temp. 19.92
cond. 1.065
Sal. 0.53
DO 3.87
pH 8.75
ORP 384.5

~~0846- Head to Knoxville.~~

0850- Decided to take a few photos.

0900- Head to knoxville.

1635- Drop off samples at Fed Ex, Dutchtown.

1700- Arrive Enterprise, Alcoa to turn in car.

1730- EOD, Time STOP.

11-23-15 3 of 3

Photo Log

DSCN 3343 - 6 inch by-pass pipe from well #1 to storm drain

3344 - another view of by-pass pipe.

3345 - N - Pump house for well #1.

End of photos

Accutest Laboratories Southeast
Chain of Custody

ACCUTEST LABORATORIES

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL. 407-425-6700 • FAX: 407-425-0707
www.accutest.com

Accutest JOB # | PAGE 1 OF 1

Accutest Quote # | SKIFF#

Client / Reporting Information	Project Information	Analytical Information	Matrix Codes
Company Name: AMEC Foster Wheeler	Project Name: Myrtle Beach Well #1	PPOS PFOA 04 LC537 LC537 UCMR3	DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe
Address: 2030 Falling Waters Rd. STE 300	Street		
City: Knoxville State: TN Zip: 37922	City State		
Project Contact: Donna Sharp E-mail: donna.sharp@amecfw.com	Project #: 77529 0177.0003.0300B		
Phone#: 865 671 6774	Fax #:		
Sampler(s) Name(s) (Printed): Norm Barnes	Client Purchase Order #		

Accutest Sample #	Field ID / Point of Collection	COLLECTION: DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	CONTAINER INFORMATION: OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NaOH+ZnAc	DI WATER	MeOH		LAB USE ONLY
	Well #1	11-23-15	0930	NB	GW	2		X								X	

TURNAROUND TIME (Business Days)

Approved By: / Rush Code

- [X] 10 Days Standard
- [ ] 7 Day RUSH
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] OTHER

Emergency or Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- [ ] COMMERCIAL "A" (RESULTS ONLY)
- [ ] COMMERCIAL "B" (RESULTS PLUS QC)
- [ ] REDT1 (EPA LEVEL 3)
- [ ] FULT1 (EPA LEVEL 4)
- [ ] EDD'S

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished by :	Date Time:	Received By:
1	11-23-15 1700	2	3		4
Relinquished by:	Date Time:	Received By:	Relinquished by:	Date Time:	Received By:
5		6	7		8

Lab Use Only: Custody Seal in Place: Y N Temp Blank Provided: Y N Preserved where Applicable: Y N Total # of Coolers: Cooler Temperature (s) Celsius: _____

FedEx Express Package US Airbill

FedEx Tracking Number 8094 7817 9780

MUR3

Form ID No. 0215

Sender's Copy

1 From *Please print and press hard.*

Date 11-23-15 Sender's FedEx Account Number 182320153

Sender's Name Norm Barnes Phone (865) 3355855

Company AMEC Foster Wheeler

Address 2030 Falling Waters Rd STE 300 Dept./Floor/Suite/Room

City Knoxville State TN ZIP 37922

2 Your Internal Billing Reference First 24 characters will appear on invoice.

3 To

Recipient's Name SAMPLE MANAGEMENT Phone (407) 425-6700

Company ACCUTEST LABORATORIES

Address 4405 VINELAND RD STE C15 Dept./Floor/Suite/Room

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City ORLANDO State FL ZIP 32811-5803

☐ Hold Weekday FedEx location address REQUIRED. NOT available for FedEx First Overnight.

☐ Hold Saturday FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

0121673073

Deliveries when and where you want.
Learn about FedEx Delivery Manager® at fedex.com/delivery

4 Express Package Service * To most locations. *Packages up to 150 lbs. For packages over 150 lbs., use the FedEx Express Freight US Airbill.*

Next Business Day

☐ FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless Saturday Delivery is selected.

☒ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless Saturday Delivery is selected.

☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

☐ FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.

☐ FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless Saturday Delivery is selected.

☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube ☒ Other cooler

6 Special Handling and Delivery Signature Options Fees may apply. See the FedEx Service Guide.

☐ Saturday Delivery — NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

☐ No Signature Required — Package may be left without obtaining a signature for delivery.

☐ Direct Signature — Someone at recipient's address may sign for delivery.

☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only.

Does this shipment contain dangerous goods? One box must be checked.

☒ No ☐ Yes As per attached Shipper's Declaration. ☐ Yes Shipper's Declaration not required. ☐ Dry Ice Dry Ice, 9, UN 1845 ____ x ____ kg

Restrictions apply for dangerous goods — see the current FedEx Service Guide. ☐ Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

☐ Sender Acct. No. in Section 1 will be billed. ☒ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

FedEx Acct. No. / Credit Card No. 182320153 Exp. Date

Total Packages 1 Total Weight ____ lbs. Total Declared Value† $ ____ .00

611

†Our liability is limited to US$100 unless you declare a higher value. See back for details. By using this airbill you agree to the service conditions on the back of this airbill and in the current FedEx Service Guide, including terms that limit our liability.

Rev. Date 5/15 • Part #183134 • ©1994-2015 FedEx • PRINTED IN U.S.A. SRM

PULL AND RETAIN THIS COPY BEFORE AFFIXING TO THE PACKAGE. NO POUCH NEEDED.

APPENDIX C

Investigation Derived Waste Documentation

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#35227 (53)

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: SC7 570 024 821
2. Page 1 of 1
3. Emergency Response) Phone: (800) 275-8629
4. Waste Tracking Number: 112137

5. Generator's Name and Mailing Address: AIR FORCE CIVIL ENGINEER CENTER
706 HANGAR ROAD
ROME, NY 13441
Generator's Phone:

Generator's Site Address (if different than mailing address)
FTA W OF HARRELSON BLVD
MYRTLE BEACH SC 29577

6. Transporter 1 Company Name: EQ INDUSTRIAL SERVICES
U.S. EPA ID Number: MIK 435 642 742

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: EQIS ATLANTA TRANSFER & PROCESSII
5600 FULTON INDUSTRIAL BLVD,SW
ATLANTA, GA 30336
Facility's Phone: (404) 494-3520
U.S. EPA ID Number: GAR 000 039 776

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. NON-HAZARDOUS, NON DOT REGULATED MATERIAL	003	DM	180	P
2. NON-HAZARDOUS, NON DOT REGULATED MATERIAL	014	DM	3000	P
3. NON-HAZARDOUS, NON DOT REGULATED MATERIAL	016	DM	~~8800~~ 8000	G
4. NON-HAZARDOUS, NON DOT REGULATED MATERIAL	AC	DM		P

13. Special Handling Instructions and Additional Information
1. E161884ATL / IDW NON-HAZARDOUS DEBRIS 2. E161885ATL / IDW NON-HAZARDOUS SOIL 3. E161886ATL / IDW NON-HAZARDOUS WATER 4. RCRA EMPTY DRUMS PROFILE 532456

14 GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to Federal regulations for reporting proper disposal of Hazardous Waste.
Generator's/Officer's Printed/Typed Name: CATHERINE JERROLD
Signature:
Month: 6 Day: 2 Year: 16

15. International Shipments: ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Thomas Cody
Signature:
Month: 6 Day: 2 Year: 16

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

17. Discrepancy
17a. Discrepancy Indication Space: ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator): U.S. EPA ID Number:
Facility's Phone:
17c. Signature of Alternate Facility (or Generator) Month: Day: Year:

NONE	NONE	LIW	LIW

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: JASON SMITH
Signature:
Month: 06 Day: 03 Year: 16

159-BLC-I 6 Rev. 8/06

DESIGNATED FACILITY TO GENERATOR

9203461

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Profile Tracking # _____

US ecology WASTE PROFILE FORM

For assistance in completing this document or for additional information on service offerings, please visit our website at www.usecology.com, or call 800-592-5489.

US Ecology will choose the appropriate facility and method of waste management for your waste from the technologies offered at each operation.

If you wish to direct this waste to a specific facility(s) or treatment technology please indicate here:

Waste Common Name: IDW Non-hazardous Soil

Section 1 – Generator & Customer Information

Generator EPA ID # SC7570024821

NAICS/SIC Code 9999

Generator Air Force Civil Engineer Center

Facility Address Former Fire Training Area, w. of Harrelson Blvd.

City Myrtle Beach State South Carolina Zip 29577

24-hour Emergency Response Number

Amec Foster Wheeler Environment & Infrastructure, Inc.

Mailing Address 9725 Cogdill Road

City Knoxville State Tennessee Zip 37932

Generator Contact Travis Stanley

itle Field Manager

Phone (865) 607-1501 Fax (865) 671-6254

E-mail Travis.stanley@amecfw.com

Internal Use Only: EQ Division _____

EQ Customer No. _____

Invoicing Company Amec Foster Wheeler E & I

Address 9210 Sky Park Court #200

City San Diego State California Zip 92123

Country USA

Invoicing Contact Tammie Rippie

E-mail tammie.rippie@amecfw.com Fax (865) 300-4301

Technical Contact Bonani Langan

Phone (919) 765-9977 Fax (919) 381-9901

Cell Phone (919) 564-9999

E-mail bonani.langan@amecfw.com

Section 2 – Shipping & Packaging Information

2.1) Shipping Volume & Frequency:

a) Volume of Waste to be Shipped: 10 – 55-gallon drums

b) Frequency: ☒ One time ☐ Month ☐ Year ☐ Other: _____

2.2) DOT Information

a) Is this a U.S. Department of Transportation (USDOT) Hazardous Material? ☐ Yes ☒ No

b) If "Yes", indicate the proper shipping name per 49CFR 172.101 Hazardous Materials Table:

Section 3 – Special Properties

3.1) Color Varies – brown, black, mottled gray

3.2) Odor ☒ None ☐ Ammonia ☐ Amines ☐ Mercaptans ☐ Sulfur ☐ Organic Acid ☐ Amines/Ammonia ☐ Other: _____

3.3) Consistency at 70°F: ☒ Solid ☐ Dust/Powder ☐ Debris ☐ Sludge Liquid ☐ Gas/Aerosol ☐ Varies

3.4) What is the pH? ☐ ≤2 ☐ 2.1-4.9 ☐ 5 – 10 ☒ 10.1 – 12.4 ☐ ≥12.5 ☐ N/A

3.5) What is the flash point? ☐ <90°F ☐ 90-139°F ☐ 140-199°F ☐ >200°F ☒ N/A

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3.6) Does this waste exhibit any of the following properties? **(check all that apply)**

☒ None	❑ Free Liquids	❑ Metal Fines	❑ Water Reactive	❑ Biohazard
❑ Shock Sensitive	❑ Oily Residue	❑ Dioxins	❑ Furans	❑ Aluminum
❑ Asbestos – non-friable	❑ Asbestos – friable	❑ Other Radioactive	❑ Air Reactive	❑ Isocyanates
❑ Biodegradable Sorbents	❑ Pyrophoric	❑ Reactive Sulfide	❑ Reactive Cyanide	❑ Explosives
❑ Temperature Controlled Organic Peroxide		❑ NORM	❑ TENORM	

Section 4 – Composition and Generating Process

4.1) Provide a physical and chemical composition of the waste (e.g. soil, water, PPE, debris, etc.). List the percent ranges of the material, either estimated or known.

Soil _____ _____ to 100 % _____ _____ to _____%

_____ to _% _____ _____ to _____%

4.2) Provide a description of the generating process. *Remediation & IDW Sites: please provide a site history.*
Waste generated while conducting soil borings and monitor well installation at former fire training area FT016P. This site was located to the east of the existing taxiways at Myrtle Beach International Airport and was used for aircraft fire fighting training. Based on drilling logs and field observations, the fire training area ring and basin remain in-place at the site and were constructed using limestone gravel which was encountered in several of the soil borings. The combination of trace amounts of limestone and Portland cement and grout used in well construction may have spiked the pH in the composite sample analyzed. The investigation focused on the absence or presence of an emerging contaminant, perflouronated compounds (PFCs). Analytical results for soil requiring disposal are provided in CT Laboratories analytical report #112835.

4.3) Are there any known previous handling or treatment issues involving this waste? ❑ Yes* ☒ No

*If yes, describe: _____

Section 5 – Hazardous Wastes

As determined by 40 CFR, Part 261 and State Rules: **Please list applicable waste code(s):**

5.1) Is this waste exempted from RCRA? ❑ Yes, please provide exemption: _____ ❑ No

5.2) Is this an EPA RCRA listed hazardous waste (F, K, P or U)? ❑ Yes: _____ ❑ No

a) For F006–F009, F012, does this come from a generator that conducts a cyanide plating process? ❑ Yes ❑ No

5.3) Is this an EPA RCRA characteristic hazardous waste (D001-D043)? ❑ Yes: _____ ❑ No

5.4) Do any State Specific Hazardous Waste Codes apply? ❑ Yes: _____ ❑ No

If you answered 'no' to 5.2, 5.3 and 5.4, please proceed to Section 6.

5.5) EPA Source Code: _____ EPA Form Code: _____

5.6) Waste Code Determination Is Based On: ❑ Generator Knowledge ❑Analysis ❑ MSDS

Analysis and/or MSDS may be required for review and approval for hazardous and non-hazardous waste streams.

5.7) Does this waste exceed Land Disposal Restriction levels? ❑ Yes ❑ No

a) Is this stream a wastewater (WW) or non-wastewater (NWW)? ❑ WW ❑ NWW

b) If this waste stream is greater than 50% soil, does it meet the alternative soil treatment standards of 40CFR 268.49? ❑ Yes ❑ No

c) Does this waste contain greater than 50% debris, by volume? (Debris is greater than 2.5 inches in size.) ❑ Yes ❑ No

d) If the debris is larger than 3 ft x 3 ft x 3 ft, please provide the approximate dimensions and weight:

_____

5.8) If this is a characteristic hazardous waste, does it contain Underlying Hazardous Constituents? ❑ Yes* ❑ No

*If Yes, please list: _____

For a complete list of UHC constituents, please refer to 40 CFR 268.48

Section 6 – Non-Hazardous Wastes

Please list applicable waste code(s):

6.1) Do any State Specific Non-Hazardous Waste Codes apply? ☐ Yes ☒ No _____

6.2) Is this a Universal (UNIV) waste or a Recyclable Good (RG)? ☐ UNIV ☐ RG ☒ N/A

6.3) Is this waste used oil as defined by 40 CFR Part 279? ☐ Yes ☒ No

a) If yes, is the total halogen content of the used oil waste stream greater than 1,000 ppm? ☐ Yes ☐ No

b) If yes, what is the source of the halogen content?

- ☐ This is a metalworking oil/fluid containing chlorinated paraffins.
- ☐ This is used oil contaminated with chlorofluorocarbons from refrigeration units.
- ☐ This oil contains halogenated solvents. List specific solvents: _____
- ☐ Other, describe: _____

Section 7 – TSCA Information

7.1) What is the concentration of PCBs in the waste? ☒ None ☐ 0-49 ppm ☐ 50-499 ppm ☐ 500+ ppm

7.2) Does the waste contain PCB contamination from a source with a concentration ≥ 50 ppm? ☐ Yes ✠ No ☐ Unknown

If you answered "none" or "0-49 ppm"' to 7.1 and "no" to 7.2, please proceed to Section 8.

7.3) Has this waste been processed into a non-liquid form? ☐ Yes* ☐ No

*If yes, what was the concentration of PCBs prior to processing? ☐ 0-499 ppm ☐ 500+ ppm

7.4) Is this non-liquid PCB waste in the form of soil, rags, debris, or other contaminated media? ☐ Yes ☐ No

7.5) Are you a PCB capacitor manufacturer or a PCB equipment manufacturer? ☐ Yes ☐ No

7.6) Has the PCB Article (e.g., transformer, hydraulic machine, PCB-contaminated electrical equipment) been drained/flushed of all PCBs and decontaminated in accordance with 40 CFR 761.60(b)? ☐ N/A ☐ Yes ☐ No

Section 8 – Clean Air Act Information

8.1) Is this waste subject to regulation under 40 CFR, Part 264, Subpart CC (VOC > 500 ppmw)? ☐ Yes ☒ No

8.2) Is this waste subject to regulation under 40 CFR, Part 63, Subpart DD (VOHAP > 500 ppmw)? ☐ Yes ☒ No

8.3) Is the site, or waste, subject to any other NESHAP/MACT standard(s)? ☐ Yes* ☒ No

If Yes this document serves as notification that this waste contains chemicals _____ , _____ required to be managed in accordance with Part ☐ 61 ☐ 62 ☐ 63 Subpart _____ of NESHAP/MACT standards.

8.4) Does this waste stream contain Benzene? ☐ Yes ☒ No

If you answered "no" to 8.4, please proceed to Section 9.

8.5) Does the waste stream come from a facility subject to 40 CFR 61, Subpart FF (Benzene NESHAP)?

☐ Yes, please provide the SIC/NAICS code: _____ ☐ No

If you answered "no" to questions 8.5, please proceed to Section 9.

8.6) Does your facility manage the waste subject to Benzene NESHAP in a manner other than shipping off-site?

☐ Yes, please specify: _____ ☐ No

8.7) Is the generating source of this waste a facility with Total Annual Benzene (TAB) ≥10 Mg/year? ☐ Yes ☐ No

8.8) Does the waste contain >10% water? ☐ Yes ☐ No

8.9) What is the TAB quantity for your facility? _____ Mg/Year

8.10) What is the total Benzene concentration in your waste? _____ Percent or _____ ppmw.

Supporting analysis must be attached. Do not use TCLP analytical results. Acceptable laboratory methods include 8020, 8240, 8260, 602 and 624.

Section 9 – Certification

I certify that all information (including attachments) is complete and factual and is an accurate representation of the known and suspected hazards, pertaining to the waste described herein. I authorize EQ's personnel to add supplemental information to the waste approval file, provided I am contacted and give verbal permission. I authorize EQ's personnel to obtain a sample from any waste shipment for purposes of verification and confirmation. I agree that, if EQ approves the waste described herein, all such wastes that are transported, delivered, or tendered to EQ by Generator or on Generator's behalf shall be subject to, and Generator shall be bound by, the attached Standard Terms and Conditions.

If I am an agent acting on behalf of the generator, I also certify that I have permission to sign any and all waste characterization paperwork on the generator's behalf and that I can produce such certification in writing upon request.

Generator Signature Catherine Jerrard Printed Name Catherine Jerrard

Company Air Force Civil Engineer Center Title BRAC Environmental Coordinator Date 4/29/16

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STANDARD TERMS AND CONDITIONS

The Agreement between the Customer and EQ – The Environmental Quality Company and/or its member companies (hereinafter "EQ") related to or associated with Delivered Waste, as herein defined, shall be governed by the following Standard Terms and Conditions in addition to the terms and conditions contained in any Waste Profile Form, Customer Approval Quote Confirmation, Generator Approval Notification, Notice of Waste Approval Expiration, and/or Credit Agreement associated with such Delivered Waste.

The Customer may use its standard forms (such as purchase orders, acknowledgments of orders, and invoices) to administer its dealings under this Agreement for convenience purposes, but all provisions thereof in conflict with these terms and conditions shall be deemed stricken.

Definitions

The following definitions shall apply for purposes of this Agreement:

"**Acceptable Waste**" shall mean any hazardous waste, as defined under applicable State or federal law, determined by EQ as acceptable for treatment and/or disposal in accordance with this Agreement.

"**Delivered Wastes**" shall mean all wastes (i) which are transported, delivered, or tendered to EQ by the Customer; (ii) which the Customer has arranged for the transport, delivery or tender to EQ; or (iii)) which are transported, delivered, or tendered to EQ under a Credit Agreement between the Customer and EQ.

"Non-Conforming Wastes" shall mean wastes that (a) are not in accordance in all material respects with the warranties, descriptions, specifications or limitations stated in the Waste Profile Form and this Agreement; (b) have constituents or components of a type or concentration not specifically identified in the Waste Profile Form (i) which increase the nature or extent of the hazard and risk undertaken by EQ in treating and/or disposing of the waste, or (ii) for whose treatment and/or disposal a Waste Management Facility is not designed or permitted, or (iii) which increase the cost of treatment and/or disposal of waste beyond that specified in EQ's price quote; or (c) are not properly packaged, labeled, described, or placarded, or otherwise not in compliance with United States Department of Transportation and United States Environmental Protection Agency regulations.

Control of Operations.

EQ shall have sole control over all aspects of the operation of any treatment and/or disposal facility of EQ receiving Delivered Wastes under this Agreement (hereinafter, "Waste Management Facility"), including, without limitation, maintaining EQ's desired volume of Acceptable Wastes being delivered to any Waste Management Facility by the Customer or any other person or entity.

Identification of Waste.

For each waste material to be transported, delivered, or tendered to EQ under this Agreement, the Customer shall provide, or cause to be provided, to EQ a representative sample of the waste material and a completed Waste Profile Form containing a physical and chemical description or analysis of such waste material, which description shall conform with any and all guidelines for waste acceptance provided by EQ. On the basis of EQ's analysis of such representative sample of the waste material and such Waste Profile Form, EQ will determine whether such wastes are Acceptable Wastes. EQ does not make any guarantee that it will handle any waste material or any particular quantity or type of waste material, and EQ reserves the right to the decline to transport, treat and/or dispose of waste material. The Customer shall promptly furnish to EQ any information regarding known, suspected or planned changes in the composition of the waste material. Further, the Customer shall promptly inform EQ of any change in the characteristic or condition of the waste material which becomes known to the Customer subsequent to the date of the Waste Profile Form.

Non-Conforming Wastes.

In the event that EQ at any time discovers that any Delivered Waste is Non-Conforming Waste, EQ may reject or revoke its acceptance of the Non-Conforming Waste. The Customer shall have seven (7) days to direct an alternative lawful manner of disposition of the waste, unless it is necessary by reason of law or otherwise to move the Non-Conforming Waste prior to expiration of the seven (7) day period. If the Customer does not direct an alternative disposal, at its option, EQ may return any such Non-Conforming Wastes to the Customer, and the Customer shall pay or reimburse EQ for all costs and expenses incurred by EQ in connection with the receipt, handling, sampling, analyses, transportation and return to the Customer of such Non-Conforming Wastes. If it is impossible or impractical for EQ to return the Non-Conforming Waste to the Customer, the Customer shall reimburse EQ for all costs, of any type or nature whatsoever, incurred by EQ, solely because such Delivered Waste was Non-Conforming Waste (including, but not limited to, all costs associated with any remedial steps necessary, due to the nature of the Non-Conforming Waste, in connection with material with which the Non-Conforming Waste may have been commingled and all expenses and charges for analyzing, handling, locating, preparing for transporting, storing and disposing of any Non-Conforming Waste).

Customer Warranty - Acceptable Wastes.

All Delivered Wastes shall be Acceptable Wastes and shall conform in all material respects to the description and specifications contained in the Waste Profile Form. The information set forth in the Waste Profile Form or any manifest, placard or label associated with any Delivered Wastes, or otherwise represented by the Customer or the generator (if other than the Customer) to EQ, is and shall be true, accurate and complete as of the date of receipt of the involved waste by EQ.

Customer Warranty - Title to Wastes.

Either the Customer or the generator (if other than the Customer) shall hold clear title, free of any all liens, claims, encumbrances, and charges to Delivered Waste until such waste is accepted by EQ.

Customer Warranty - Compliance with Laws.

The Customer shall comply with all applicable federal, state and local environmental statutes, regulations, and other governmental requirements, as well as directives issued by EQ from time to time, governing the transportation, treatment and/or disposal of Acceptable Wastes, including, but not limited to, all packaging, manifesting, containerization, placarding and labeling requirements.

Customer Warranty - Updating Information.

If the Customer receives information that Delivered Waste or other hazardous waste described in the Waste Profile Form, or some component of such waste, presents or may present a hazard or risk to persons, property or the environment which was not disclosed to EQ, or if the Customer or generator (if other than the Customer) has changed the process by which such waste results, the Customer shall promptly report such information to EQ in writing.

Customer Indemnity.

The Customer shall indemnify, defend and hold harmless EQ, and its affiliated or related companies, and all of their respective present or future officers, directors, shareholders, employees and agents from and against any and all losses, damages, liabilities, penalties, fines, forfeitures, demands, claims, causes of action, suits, costs and expenses (including, but not limited to, reasonable costs of defense, settlement, and reasonable attorneys' fees), which may be asserted against any or all of them by any person or any governmental agency, or which any or all of them may hereafter suffer, incur, be responsible for or pay out, as a result of or in connection with bodily injuries (including, but not limited to, death, sickness, disease and emotional or mental distress) to any person (including EQ's employees), damage (including, but not limited to, loss of use) to any property (public or private), or any requirements to conduct or incur expense for investigative, removal or remedial expenses in connection with contamination of or adverse effect on the environment, or any violation or alleged violation of any statues, ordinances, orders, rules or regulations of any governmental entity or agency, caused or arising out of (i) a breach of this Agreement by the Customer, (ii) the failure of any warranty of the Customer to be true, accurate and complete, or (iii) any willful or negligent act or omission of the Customer, or its employees or agents in connection with the performance of this Agreement.

Force Majeure

EQ shall not be liable for any failure to accept, receive, handle, treat, and/or dispose of Delivered Waste due to an act of God, fire, casualty, flood, war, strike, lockout, labor trouble, failure of public utilities, equipment failure, facility shutdown, injunction, accident, epidemic, riot, insurrection, destruction of operation or transportation facilities, the inability to procure materials, equipment, or sufficient personnel or energy in order to meet operational needs without the necessity of allocation, the failure or inability to obtain any governmental approvals or to meet Environmental Requirements (including, but not limited to voluntary or involuntary compliance with any act, exercise, assertion, or requirement of any governmental authority) which may temporarily or permanently prohibit operations of EQ, the Customer, or the Generator, or any other circumstances beyond the control of EQ which prevents or delays performance of any of its obligations under this Agreement.

Governing Laws

This Agreement shall in all respects be governed by and shall be construed in accordance with the laws of the State of Michigan applied to contracts executed and performed wholly within such state.

Bulk Disposal Charges

Quoted bulk disposal charges for solid materials will be billed by the cubic yard, if the waste density is less than 2,000lbs./cubic yard. If waste density is greater than 2,00 lbs./cubic yard, then bulk disposal charges will be billed by the ton, regardless of the approved container.

Profile Tracking # _____

US ecology WASTE PROFILE FORM

For assistance in completing this document or for additional information on service offerings, please visit our website at www.usecology.com, or call 800-592-5489.

US Ecology will choose the appropriate facility and method of waste management for your waste from the technologies offered at each operation.

If you wish to direct this waste to a specific facility(s) or treatment technology please indicate here:

Waste Common Name: IDW Non-hazardous Water

Section 1 – Generator & Customer Information

Generator EPA ID # SC7570024821

NAICS/SIC Code 9999

Generator Air Force Civil Engineer Center

Facility Address Former Fire Training Area, w. of Harrelson Blvd.

City Myrtle Beach State South Carolina Zip 29577

24-hour Emergency Response Number

Amec Foster Wheeler Environment & Infrastructure, Inc.

Mailing Address 9725 Cogdill Road

City Knoxville State Tennessee Zip 37932

Generator Contact Travis Stanley

Title Field Manager

Phone (865) 607-1501 Fax (865) 671-6254

E-mail travis.stanley@amecfw.com

Internal Use Only: EQ Division _____

EQ Customer No. _____

Invoicing Company Amec Foster Wheeler E & I

Address 9210 Sky Park Court #200

City San Diego State California Zip 92123

Country USA

Invoicing Contact Tammie Rippie

E-mail tammie.rippie@amecfw.com Fax (865) 300-4301

Technical Contact Bonani Langan

Phone (919) 765-9977 Fax (919) 381-9901

Cell Phone (919) 564-9999

E-mail bonani.langan@amecfw.com

Section 2 – Shipping & Packaging Information

2.1) Shipping Volume & Frequency:

a) Volume of Waste to be Shipped: 15 – 55-gallon drums

b) Frequency: ☒ One time ☐ Month ☐ Year ☐ Other: _____

2.2) DOT Information

a) Is this a U.S. Department of Transportation (USDOT) Hazardous Material? ☐ Yes ✠ No

b) If "Yes", indicate the proper shipping name per 49CFR 172.101 Hazardous Materials Table:

Section 3 – Special Properties

3.1) Color Clear to muddy

3.2) Odor ☒ None ☐ Ammonia ☐ Amines ☐ Mercaptans ☐ Sulfur ☐ Organic Acid ☐ Amines/Ammonia ☐ Other: _____

3.3) Consistency at 70°F: ☐ Solid ☐ Dust/Powder ☐ Debris ☐ Sludge ☒ Liquid ☐ Gas/Aerosol ☐ Varies

3.4) What is the pH? ☐ ≤2 ☐ 2.1-4.9 ☒ 5 – 10 ☐ 10.1 – 12.4 ☐ ≥12.5 ☐ N/A

3.5) What is the flash point? ☐ <90°F ☐ 90-139°F ☐ 140-199°F ☐ >200°F ☒ N/A

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3.6) Does this waste exhibit any of the following properties? **(check all that apply)**

☒ None	❑ Free Liquids	❑ Metal Fines	❑ Water Reactive	❑ Biohazard
❑ Shock Sensitive	❑ Oily Residue	❑ Dioxins	❑ Furans	❑ Aluminum
❑ Asbestos – non-friable	❑ Asbestos – friable	❑ Other Radioactive	❑ Air Reactive	❑ Isocyanates
❑ Biodegradable Sorbents	❑ Pyrophoric	❑ Reactive Sulfide	❑ Reactive Cyanide	❑ Explosives
❑ Temperature Controlled Organic Peroxide		❑ NORM	❑ TENORM	

Section 4 – Composition and Generating Process

4.1) Provide a physical and chemical composition of the waste (e.g. soil, water, PPE, debris, etc.). List the percent ranges of the material, either estimated or known.

Liquid _____ _____ to 95 % _____ _____ to ____%

Sediment _____ _____ to 5 % _____ _____ to ____%

4.2) Provide a description of the generating process. *Remediation & IDW Sites: please provide a site history.*

Waste generated while conducting soil borings and monitor well installation at former fire training area FT016P. This site was located to the east of the existing taxiways at Myrtle Beach International Airport and was used for aircraft fire fighting training. The investigation focused on the absence or presence of an emerging contaminant, perflouronated compounds (PFCs). Analytical results for liquids requiring disposal are provided in CT Laboratories analytical report #112835.

4.3) Are there any known previous handling or treatment issues involving this waste? ❑ Yes* ☒ No

*If yes, describe: _____

Section 5 – Hazardous Wastes

As determined by 40 CFR, Part 261 and State Rules: **Please list applicable waste code(s):**

5.1) Is this waste exempted from RCRA? ❑ Yes, please provide exemption: _____ ❑ No

5.2) Is this an EPA RCRA listed hazardous waste (F, K, P or U)? ❑ Yes: _____ ❑ No

a) For F006–F009, F012, does this come from a generator that conducts a cyanide plating process? ❑ Yes ❑ No

5.3) Is this an EPA RCRA characteristic hazardous waste (D001-D043)? ❑ Yes: _____ ❑ No

5.4) Do any State Specific Hazardous Waste Codes apply? ❑ Yes: _____ ❑ No

If you answered 'no' to 5.2, 5.3 and 5.4, please proceed to Section 6.

5.5) EPA Source Code: _____ EPA Form Code: _____

5.6) Waste Code Determination Is Based On: ❑ Generator Knowledge ❑ Analysis ❑ MSDS

Analysis and/or MSDS may be required for review and approval for hazardous and non-hazardous waste streams.

5.7) Does this waste exceed Land Disposal Restriction levels? ❑ Yes ❑ No

a) Is this stream a wastewater (WW) or non-wastewater (NWW)? ❑ WW ❑ NWW

b) If this waste stream is greater than 50% soil, does it meet the alternative soil treatment standards of 40CFR 268.49? ❑ Yes ❑ No

c) Does this waste contain greater than 50% debris, by volume? (Debris is greater than 2.5 inches in size.) ❑ Yes ❑ No

d) If the debris is larger than 3 ft x 3 ft x 3 ft, please provide the approximate dimensions and weight:

_____

5.8) If this is a characteristic hazardous waste, does it contain Underlying Hazardous Constituents? ❑ Yes* ❑ No

*If Yes, please list: _____

For a complete list of UHC constituents, please refer to 40 CFR 268.48

Section 6 – Non-Hazardous Wastes

Please list applicable waste code(s):

6.1) Do any State Specific Non-Hazardous Waste Codes apply? ☐ Yes ☒ No _____

6.2) Is this a Universal (UNIV) waste or a Recyclable Good (RG)? ☐ UNIV ☐ RG ☒ N/A

6.3) Is this waste used oil as defined by 40 CFR Part 279? ☐ Yes ☒ No

a) If yes, is the total halogen content of the used oil waste stream greater than 1,000 ppm? ☐ Yes ☐ No

b) If yes, what is the source of the halogen content?

- ☐ This is a metalworking oil/fluid containing chlorinated paraffins.
- ☐ This is used oil contaminated with chlorofluorocarbons from refrigeration units.
- ☐ This oil contains halogenated solvents. List specific solvents: _____
- ☐ Other, describe: _____

Section 7 – TSCA Information

7.1) What is the concentration of PCBs in the waste? ☒ None ☐ 0-49 ppm ☐ 50-499 ppm ☐ 500+ ppm

7.2) Does the waste contain PCB contamination from a source with a concentration ≥ 50 ppm? ☐ Yes ☐ No ☐ Unknown

If you answered "none" or "0-49 ppm"' to 7.1 and "no" to 7.2, please proceed to Section 8.

7.3) Has this waste been processed into a non-liquid form? ☐ Yes* ☐ No

*If yes, what was the concentration of PCBs prior to processing? ☐ 0-499 ppm ☐ 500+ ppm

7.4) Is this non-liquid PCB waste in the form of soil, rags, debris, or other contaminated media? ☐ Yes ☐ No

7.5) Are you a PCB capacitor manufacturer or a PCB equipment manufacturer? ☐ Yes ☐ No

7.6) Has the PCB Article (e.g., transformer, hydraulic machine, PCB-contaminated electrical equipment) been drained/flushed of all PCBs and decontaminated in accordance with 40 CFR 761.60(b)? ☐ N/A ☐ Yes ☐ No

Section 8 – Clean Air Act Information

8.1) Is this waste subject to regulation under 40 CFR, Part 264, Subpart CC (VOC > 500 ppmw)? ☐ Yes ☒ No

8.2) Is this waste subject to regulation under 40 CFR, Part 63, Subpart DD (VOHAP > 500 ppmw)? ☐ Yes ☒ No

8.3) Is the site, or waste, subject to any other NESHAP/MACT standard(s)? ☐ Yes* ☒ No

If Yes this document serves as notification that this waste contains chemicals _____ , _____ required to be managed in accordance with Part ☐ 61 ☐ 62 ☐ 63 Subpart _____ of NESHAP/MACT standards.

8.4) Does this waste stream contain Benzene? ☐ Yes ☒ No

If you answered "no" to 8.4, please proceed to Section 9.

8.5) Does the waste stream come from a facility subject to 40 CFR 61, Subpart FF (Benzene NESHAP)?

☐ Yes, please provide the SIC/NAICS code: _____ ☐ No

If you answered "no" to questions 8.5, please proceed to Section 9.

8.6) Does your facility manage the waste subject to Benzene NESHAP in a manner other than shipping off-site?

☐ Yes, please specify: _____ ☐ No

8.7) Is the generating source of this waste a facility with Total Annual Benzene (TAB) ≥10 Mg/year? ☐ Yes ☐ No

8.8) Does the waste contain >10% water? ☐ Yes ☐ No

8.9) What is the TAB quantity for your facility? _____ Mg/Year

8.10) What is the total Benzene concentration in your waste? _____ Percent or _____ ppmw.

Supporting analysis must be attached. Do not use TCLP analytical results. Acceptable laboratory methods include 8020, 8240, 8260, 602 and 624.

Section 9 – Certification

I certify that all information (including attachments) is complete and factual and is an accurate representation of the known and suspected hazards, pertaining to the waste described herein. I authorize EQ's personnel to add supplemental information to the waste approval file, provided I am contacted and give verbal permission. I authorize EQ's personnel to obtain a sample from any waste shipment for purposes of verification and confirmation. I agree that, if EQ approves the waste described herein, all such wastes that are transported, delivered, or tendered to EQ by Generator or on Generator's behalf shall be subject to, and Generator shall be bound by, the attached Standard Terms and Conditions.

If I am an agent acting on behalf of the generator, I also certify that I have permission to sign any and all waste characterization paperwork on the generator's behalf and that I can produce such certification in writing upon request.

Generator Signature _____ Printed Name Catherine Jerrard

Company Air Force Civil Engineer Center Title BRAC Environmental Coordinator Date 3/17/2016

STANDARD TERMS AND CONDITIONS

The Agreement between the Customer and EQ – The Environmental Quality Company and/or its member companies (hereinafter "EQ") related to or associated with Delivered Waste, as herein defined, shall be governed by the following Standard Terms and Conditions in addition to the terms and conditions contained in any Waste Profile Form, Customer Approval Quote Confirmation, Generator Approval Notification, Notice of Waste Approval Expiration, and/or Credit Agreement associated with such Delivered Waste.

The Customer may use its standard forms (such as purchase orders, acknowledgments of orders, and invoices) to administer its dealings under this Agreement fo convenience purposes, but all provisions thereof in conflict with these terms and conditions shall be deemed stricken.

Definitions

The following definitions shall apply for purposes of this Agreement:

"Acceptable Waste" shall mean any hazardous waste, as defined under applicable State or federal law, determined by EQ as acceptable for treatment and/or disposal in accordance with this Agreement.

"Delivered Wastes" shall mean all wastes (i) which are transported, delivered, or tendered to EQ by the Customer; (ii) which the Customer has arranged for the transport, delivery or tender to EQ; or (iii)) which are transported, delivered, or tendered to EQ under a Credit Agreement between the Customer and EQ.

"Non-Conforming Wastes" shall mean wastes that (a) are not in accordance in all material respects with the warranties, descriptions, specifications or limitations stated in the Waste Profile Form and this Agreement; (b) have constituents or components of a type or concentration not specifically identified in the Waste Profile Form (i) which increase the nature or extent of the hazard and risk undertaken by EQ in treating and/or disposing of the waste, or (ii) for whose treatment and/or disposal a Waste Management Facility is not designed or permitted, or (iii) which increase the cost of treatment and/or disposal of waste beyond that specified in EQ's price quote; or (c) are not properly packaged, labeled, described, or placarded, or otherwise not in compliance with United States Department of Transportation and United States Environmental Protection Agency regulations.

Control of Operations.

EQ shall have sole control over all aspects of the operation of any treatment and/or disposal facility of EQ receiving Delivered Wastes under this Agreement (hereinafter, "Waste Management Facility"), including, without limitation, maintaining EQ's desired volume of Acceptable Wastes being delivered to any Waste Management Facility by the Customer or any other person or entity.

Identification of Waste.

For each waste material to be transported, delivered, or tendered to EQ under this Agreement, the Customer shall provide, or cause to be provided, to EQ a representative sample of the waste material and a completed Waste Profile Form containing a physical and chemical description or analysis of such waste material, which description shall conform with any and all guidelines for waste acceptance provided by EQ. On the basis of EQ's analysis of such representative sample of the waste material and such Waste Profile Form, EQ will determine whether such wastes are Acceptable Wastes. EQ does not make any guarantee that it will handle any waste material or any particular quantity or type of waste material, and EQ reserves the right to the decline to transport, treat and/or dispose of waste material. The Customer shall promptly furnish to EQ any information regarding known, suspected or planned changes in the composition of the waste material. Further, the Customer shall promptly inform EQ of any change in the characteristic or condition of the waste material which becomes known to the Customer subsequent to the date of the Waste Profile Form.

Non-Conforming Wastes.

In the event that EQ at any time discovers that any Delivered Waste is Non-Conforming Waste, EQ may reject or revoke its acceptance of the Non-Conforming Waste. The Customer shall have seven (7) days to direct an alternative lawful manner of disposition of the waste, unless it is necessary by reason of law or otherwise to move the Non-Conforming Waste prior to expiration of the seven (7) day period. If the Customer does not direct an alternative disposal, at its option, EQ may return any such Non-Conforming Wastes to the Customer, and the Customer shall pay or reimburse EQ for all costs and expenses incurred by EQ in connection with the receipt, handling, sampling, analyses, transportation and return to the Customer of such Non-Conforming Wastes. If it is impossible or impractical for EQ to return the Non-Conforming Waste to the Customer, the Customer shall reimburse EQ for all costs, of any type or nature whatsoever, incurred by EQ, solely because such Delivered Waste was Non-Conforming Waste (including, but not limited to, all costs associated with any remedial steps necessary, due to the nature of the Non-Conforming Waste, in connection with material with which the Non-Conforming Waste may have been commingled and all expenses and charges for analyzing, handling, locating, preparing for transporting, storing and disposing of any Non-Conforming Waste).

Customer Warranty - Acceptable Wastes.

All Delivered Wastes shall be Acceptable Wastes and shall conform in all material respects to the description and specifications contained in the Waste Profile Form. The information set forth in the Waste Profile Form or any manifest, placard or label associated with any Delivered Wastes, or otherwise represented by the Customer or the generator (if other than the Customer) to EQ, is and shall be true, accurate and complete as of the date of receipt of the involved waste by EQ.

Customer Warranty - Title to Wastes.

Either the Customer or the generator (if other than the Customer) shall hold clear title, free of any all liens, claims, encumbrances, and charges to Delivered Waste until such waste is accepted by EQ.

Customer Warranty - Compliance with Laws.

The Customer shall comply with all applicable federal, state and local environmental statutes, regulations, and other governmental requirements, as well as directives issued by EQ from time to time, governing the transportation, treatment and/or disposal of Acceptable Wastes, including, but not limited to, all packaging, manifesting, containerization, placarding and labeling requirements.

Customer Warranty - Updating Information.

If the Customer receives information that Delivered Waste or other hazardous waste described in the Waste Profile Form, or some component of such waste, presents or may present a hazard or risk to persons, property or the environment which was not disclosed to EQ, or if the Customer or generator (if other than the Customer) has changed the process by which such waste results, the Customer shall promptly report such information to EQ in writing.

Customer Indemnity.

The Customer shall indemnify, defend and hold harmless EQ, and its affiliated or related companies, and all of their respective present or future officers, directors, shareholders, employees and agents from and against any and all losses, damages, liabilities, penalties, fines, forfeitures, demands, claims, causes of action, suits, costs and expenses (including, but not limited to, reasonable costs of defense, settlement, and reasonable attorneys' fees), which may be asserted against any or all of them by any person or any governmental agency, or which any or all of them may hereafter suffer, incur, be responsible for or pay out, as a result of or in connection with bodily injuries (including, but not limited to, death, sickness, disease and emotional or mental distress) to any person (including EQ's employees), damage (including, but not limited to, loss of use) to any property (public or private), or any requirements to conduct or incur expense for investigative, removal or remedial expenses in connection with contamination of or adverse effect on the environment, or any violation or alleged violation of any statues, ordinances, orders, rules or regulations of any governmental entity or agency, caused or arising out of (i) a breach of this Agreement by the Customer, (ii) the failure of any warranty of the Customer to be true, accurate and complete, or (iii) any willful or negligent act or omission of the Customer, or its employees or agents in connection with the performance of this Agreement.

Force Majeure

EQ shall not be liable for any failure to accept, receive, handle, treat, and/or dispose of Delivered Waste due to an act of God, fire, casualty, flood, war, strike, lockout, labor trouble, failure of public utilities, equipment failure, facility shutdown, injunction, accident, epidemic, riot, insurrection, destruction of operation or transportation facilities, the inability to procure materials, equipment, or sufficient personnel or energy in order to meet operational needs without the necessity of allocation, the failure or inability to obtain any governmental approvals or to meet Environmental Requirements (including, but not limited to voluntary or involuntary compliance with any act, exercise, assertion, or requirement of any governmental authority) which may temporarily or permanently prohibit operations of EQ, the Customer, or the Generator, or any other circumstances beyond the control of EQ which prevents or delays performance of any of its obligations under this Agreement.

Governing Laws

This Agreement shall in all respects be governed by and shall be construed in accordance with the laws of the State of Michigan applied to contracts executed and performe wholly within such state.

Bulk Disposal Charges

Quoted bulk disposal charges for solid materials will be billed by the cubic yard, if the waste density is less than 2,000lbs./cubic yard. If waste density is greater than 2,000 lbs./cubic yard, then bulk disposal charges will be billed by the ton, regardless of the approved container.

US ecology

Profile Tracking # _____

WASTE PROFILE FORM

For assistance in completing this document or for additional information on service offerings, please visit our website at www.usecology.com, or call 800-592-5489.

US Ecology will choose the appropriate facility and method of waste management for your waste from the technologies offered at each operation.

If you wish to direct this waste to a specific facility(s) or treatment technology please indicate here:

Waste Common Name: IDW Debris (non-hazardous)

Section 1 – Generator & Customer Information

Generator EPA ID # SC7570024821
NAICS/SIC Code 9999
Generator Air Force Civil Engineer Center
Facility Address Former Fire Training Area, w. off Harrelson Blvd.
City Myrtle Beach State South Carolina Zip 29577
24-hour Emergency Response Number
Amec Foster Wheeler Environment & Infrastructure, Inc.
Mailing Address 9725 Cogdill Road
City Knoxville State Tennessee Zip 37932
Generator Contact Travis Stanley
itle Field Manager
Phone (865) 607-1501 Fax (865) 671-6254
E-mail Travis.stanley@amecfw.com

Internal Use Only: EQ Division _____
EQ Customer No. _____
Invoicing Company Amec Foster Wheeler E & I
Address 9210 Sky Park Court #200
City San Diego State California Zip 92123
Country USA
Invoicing Contact Tammie Rippie
E-mail tammie.rippie@amecfw.com Fax (865) 300-4301
Technical Contact Bonani Langan
Phone (919) 765-9977 Fax (919) 381-9901
Cell Phone (919) 564-9999
E-mail bonani.langan@amecfw.com

Section 2 – Shipping & Packaging Information

2.1) Shipping Volume & Frequency:
a) Volume of Waste to be Shipped: 4 – 55-gallon drums
b) Frequency: ☒ One time ☐ Month ☐ Year ☐ Other: _____

2.2) DOT Information
a) Is this a U.S. Department of Transportation (USDOT) Hazardous Material? ☐ Yes ☒ No
b) If "Yes", indicate the proper shipping name per 49CFR 172.101 Hazardous Materials Table:

Section 3 – Special Properties

3.1) Color Varies – brown, black, mottled gray

3.2) Odor ☒ None ☐ Ammonia ☐ Amines ☐ Mercaptans ☐ Sulfur ☐ Organic Acid ☐ Amines/Ammonia
☐ Other: _____

3.3) Consistency at 70^{0}F: ☒ Solid ☐ Dust/Powder ☐ Debris ☐ Sludge Liquid ☐ Gas/Aerosol ☐ Varies

3.4) What is the pH? ☐ ≤2 ☐ 2.1-4.9 ✠ 5 – 10 ☐ 10.1 – 12.4 ☐ ≥12.5 ☐ N/A

3.5) What is the flash point? ☐ <90^{0}F ☐ 90-139^{0}F ☐ 140-199^{0}F ✠ >200^{0}F ☐ N/A

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3.6) Does this waste exhibit any of the following properties? **(check all that apply)**

☒ None	❑ Free Liquids	❑ Metal Fines	❑ Water Reactive	❑ Biohazard
❑ Shock Sensitive	❑ Oily Residue	❑ Dioxins	❑ Furans	❑ Aluminum
❑ Asbestos – non-friable	❑ Asbestos – friable	❑ Other Radioactive	❑ Air Reactive	❑ Isocyanates
❑ Biodegradable Sorbents	❑ Pyrophoric	❑ Reactive Sulfide	❑ Reactive Cyanide	❑ Explosives
❑ Temperature Controlled Organic Peroxide		❑ NORM	❑ TENORM	

Section 4 – Composition and Generating Process

4.1) Provide a physical and chemical composition of the waste (e.g. soil, water, PPE, debris, etc.). List the percent ranges of the material, either estimated or known.

Plastic Liner, Gloves, Visquene, trash ___ to 100 % _____ _____ to ____%

_____ to _% _____ _____ to ____%

4.2) Provide a description of the generating process. *Remediation & IDW Sites: please provide a site history.*

The contents are materials used and generated during equipment wash-down and decontamination during a subsurface investigation (drilling). Contents include plastic liners that were used to collect subsurface soil samples, and gloves used as personal protective equipment during drilling and decontamination. Visquene was used as a lining of the equipment decontamination pad used to collect rinsate generated during the wash-down process. Generated while conducting subsurface investigation at the former fire fighting training area FT016P.

4.3) Are there any known previous handling or treatment issues involving this waste? ❑ Yes* ✠ No

*If yes, describe: _____

Section 5 – Hazardous Wastes

As determined by 40 CFR, Part 261 and State Rules: **Please list applicable waste code(s):**

5.1) Is this waste exempted from RCRA? ❑ Yes, please provide exemption: _____ ❑ No

5.2) Is this an EPA RCRA listed hazardous waste (F, K, P or U)? ❑ Yes: _____ ❑ No

a) For F006–F009, F012, does this come from a generator that conducts a cyanide plating process? ❑ Yes ❑ No

5.3) Is this an EPA RCRA characteristic hazardous waste (D001-D043)? ❑ Yes: _____ ❑ No

5.4) Do any State Specific Hazardous Waste Codes apply? ❑ Yes: _____ ❑ No

If you answered 'no' to 5.2, 5.3 and 5.4, please proceed to Section 6.

5.5) EPA Source Code: _____ EPA Form Code: _____

5.6) Waste Code Determination Is Based On: ❑ Generator Knowledge ❑ Analysis ❑ MSDS

Analysis and/or MSDS may be required for review and approval for hazardous and non-hazardous waste streams.

5.7) Does this waste exceed Land Disposal Restriction levels? ❑ Yes ❑ No

a) Is this stream a wastewater (WW) or non-wastewater (NWW)? ❑ WW ❑ NWW

b) If this waste stream is greater than 50% soil, does it meet the alternative soil treatment standards of 40CFR 268.49? ❑ Yes ❑ No

c) Does this waste contain greater than 50% debris, by volume? (Debris is greater than 2.5 inches in size.) ❑ Yes ❑ No

d) If the debris is larger than 3 ft x 3 ft x 3 ft, please provide the approximate dimensions and weight:

_____

5.8) If this is a characteristic hazardous waste, does it contain Underlying Hazardous Constituents? ❑ Yes* ❑ No

*If Yes, please list: _____

For a complete list of UHC constituents, please refer to 40 CFR 268.48

Section 6 – Non-Hazardous Wastes

Please list applicable waste code(s):

6.1) Do any State Specific Non-Hazardous Waste Codes apply? ☐ Yes ☒ No _____

6.2) Is this a Universal (UNIV) waste or a Recyclable Good (RG)? ☐ UNIV ☐ RG ☒ N/A

6.3) Is this waste used oil as defined by 40 CFR Part 279? ☐ Yes ☒ No

a) If yes, is the total halogen content of the used oil waste stream greater than 1,000 ppm? ☐ Yes ☐ No

b) If yes, what is the source of the halogen content?

- ☐ This is a metalworking oil/fluid containing chlorinated paraffins.
- ☐ This is used oil contaminated with chlorofluorocarbons from refrigeration units.
- ☐ This oil contains halogenated solvents. List specific solvents: _____
- ☐ Other, describe: _____

Section 7 – TSCA Information

7.1) What is the concentration of PCBs in the waste? ☒ None ☐ 0-49 ppm ☐ 50-499 ppm ☐ 500+ ppm

7.2) Does the waste contain PCB contamination from a source with a concentration ≥ 50 ppm? ☐ Yes ☒ No ☐ Unknown

If you answered "none" or "0-49 ppm"' to 7.1 and "no" to 7.2, please proceed to Section 8.

7.3) Has this waste been processed into a non-liquid form? ☐ Yes* ☐ No

*If yes, what was the concentration of PCBs prior to processing? ☐ 0-499 ppm ☐ 500+ ppm

7.4) Is this non-liquid PCB waste in the form of soil, rags, debris, or other contaminated media? ☐ Yes ☐ No

7.5) Are you a PCB capacitor manufacturer or a PCB equipment manufacturer? ☐ Yes ☐ No

7.6) Has the PCB Article (e.g., transformer, hydraulic machine, PCB-contaminated electrical equipment) been drained/flushed of all PCBs and decontaminated in accordance with 40 CFR 761.60(b)? ☐ N/A ☐ Yes ☐ No

Section 8 – Clean Air Act Information

8.1) Is this waste subject to regulation under 40 CFR, Part 264, Subpart CC (VOC > 500 ppmw)? ☐ Yes ☒ No

8.2) Is this waste subject to regulation under 40 CFR, Part 63, Subpart DD (VOHAP > 500 ppmw)? ☐ Yes ☒ No

8.3) Is the site, or waste, subject to any other NESHAP/MACT standard(s)? ☐ Yes* ☒ No

If Yes this document serves as notification that this waste contains chemicals _____ , _____ required to be managed in accordance with Part ☐ 61 ☐ 62 ☐ 63 Subpart _____ of NESHAP/MACT standards.

8.4) Does this waste stream contain Benzene? ☐ Yes ☒ No

If you answered "no" to 8.4, please proceed to Section 9.

8.5) Does the waste stream come from a facility subject to 40 CFR 61, Subpart FF (Benzene NESHAP)?

☐ Yes, please provide the SIC/NAICS code: _____ ☐ No

If you answered "no" to questions 8.5, please proceed to Section 9.

8.6) Does your facility manage the waste subject to Benzene NESHAP in a manner other than shipping off-site?

☐ Yes, please specify: _____ ☐ No

8.7) Is the generating source of this waste a facility with Total Annual Benzene (TAB) ≥10 Mg/year? ☐ Yes ☐ No

8.8) Does the waste contain >10% water? ☐ Yes ☐ No

8.9) What is the TAB quantity for your facility? _____ Mg/Year

8.10) What is the total Benzene concentration in your waste? _____ Percent or _____ ppmw.

Supporting analysis must be attached. Do not use TCLP analytical results. Acceptable laboratory methods include 8020, 8240, 8260, 602 and 624.

Section 9 – Certification

I certify that all information (including attachments) is complete and factual and is an accurate representation of the known and suspected hazards, pertaining to the waste described herein. I authorize EQ's personnel to add supplemental information to the waste approval file, provided I am contacted and give verbal permission. I authorize EQ's personnel to obtain a sample from any waste shipment for purposes of verification and confirmation. I agree that, if EQ approves the waste described herein, all such wastes that are transported, delivered, or tendered to EQ by Generator or on Generator's behalf shall be subject to, and Generator shall be bound by, the attached Standard Terms and Conditions.

If I am an agent acting on behalf of the generator, I also certify that I have permission to sign any and all waste characterization paperwork on the generator's behalf and that I can produce such certification in writing upon request.

Generator Signature Catherine Jerrard Printed Name Catherine Jerrard

Company Air Force Civil Engineer Center Title BRAC Environmental Coordinator Date 3/17/2016

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EQ shall have sole control over all aspects of the operation of any treatment and/or disposal facility of EQ receiving Delivered Wastes under this Agreement (hereinafter, "Waste Management Facility"), including, without limitation, maintaining EQ's desired volume of Acceptable Wastes being delivered to any Waste Management Facility by the Customer or any other person or entity.

Identification of Waste.

For each waste material to be transported, delivered, or tendered to EQ under this Agreement, the Customer shall provide, or cause to be provided, to EQ a representative sample of the waste material and a completed Waste Profile Form containing a physical and chemical description or analysis of such waste material, which description shall conform with any and all guidelines for waste acceptance provided by EQ. On the basis of EQ's analysis of such representative sample of the waste material and such Waste Profile Form, EQ will determine whether such wastes are Acceptable Wastes. EQ does not make any guarantee that it will handle any waste material or any particular quantity or type of waste material, and EQ reserves the right to the decline to transport, treat and/or dispose of waste material. The Customer shall promptly furnish to EQ any information regarding known, suspected or planned changes in the composition of the waste material. Further, the Customer shall promptly inform EQ of any change in the characteristic or condition of the waste material which becomes known to the Customer subsequent to the date of the Waste Profile Form.

Non-Conforming Wastes.

In the event that EQ at any time discovers that any Delivered Waste is Non-Conforming Waste, EQ may reject or revoke its acceptance of the Non-Conforming Waste. The Customer shall have seven (7) days to direct an alternative lawful manner of disposition of the waste, unless it is necessary by reason of law or otherwise to move the Non-Conforming Waste prior to expiration of the seven (7) day period. If the Customer does not direct an alternative disposal, at its option, EQ may return any such Non-Conforming Wastes to the Customer, and the Customer shall pay or reimburse EQ for all costs and expenses incurred by EQ in connection with the receipt, handling, sampling, analyses, transportation and return to the Customer of such Non-Conforming Wastes. If it is impossible or impractical for EQ to return the Non-Conforming Waste to the Customer, the Customer shall reimburse EQ for all costs, of any type or nature whatsoever, incurred by EQ, solely because such Delivered Waste was Non-Conforming Waste (including, but not limited to, all costs associated with any remedial steps necessary, due to the nature of the Non-Conforming Waste, in connection with material with which the Non-Conforming Waste may have been commingled and all expenses and charges for analyzing, handling, locating, preparing for transporting, storing and disposing of any Non-Conforming Waste).

Customer Warranty - Acceptable Wastes.

All Delivered Wastes shall be Acceptable Wastes and shall conform in all material respects to the description and specifications contained in the Waste Profile Form. The information set forth in the Waste Profile Form or any manifest, placard or label associated with any Delivered Wastes, or otherwise represented by the Customer or the generator (if other than the Customer) to EQ, is and shall be true, accurate and complete as of the date of receipt of the involved waste by EQ.

Customer Warranty - Title to Wastes.

Either the Customer or the generator (if other than the Customer) shall hold clear title, free of any all liens, claims, encumbrances, and charges to Delivered Waste until such waste is accepted by EQ.

Customer Warranty - Compliance with Laws.

The Customer shall comply with all applicable federal, state and local environmental statutes, regulations, and other governmental requirements, as well as directives issued by EQ from time to time, governing the transportation, treatment and/or disposal of Acceptable Wastes, including, but not limited to, all packaging, manifesting, containerization, placarding and labeling requirements.

Customer Warranty - Updating Information.

If the Customer receives information that Delivered Waste or other hazardous waste described in the Waste Profile Form, or some component of such waste, presents or may present a hazard or risk to persons, property or the environment which was not disclosed to EQ, or if the Customer or generator (if other than the Customer) has changed the process by which such waste results, the Customer shall promptly report such information to EQ in writing.

Customer Indemnity.

The Customer shall indemnify, defend and hold harmless EQ, and its affiliated or related companies, and all of their respective present or future officers, directors, shareholders, employees and agents from and against any and all losses, damages, liabilities, penalties, fines, forfeitures, demands, claims, causes of action, suits, costs and expenses (including, but not limited to, reasonable costs of defense, settlement, and reasonable attorneys' fees), which may be asserted against any or all of them by any person or any governmental agency, or which any or all of them may hereafter suffer, incur, be responsible for or pay out, as a result of or in connection with bodily injuries (including, but not limited to, death, sickness, disease and emotional or mental distress) to any person (including EQ's employees), damage (including, but not limited to, loss of use) to any property (public or private), or any requirements to conduct or incur expense for investigative, removal or remedial expenses in connection with contamination of or adverse effect on the environment, or any violation or alleged violation of any statues, ordinances, orders, rules or regulations of any governmental entity or agency, caused or arising out of (i) a breach of this Agreement by the Customer, (ii) the failure of any warranty of the Customer to be true, accurate and complete, or (iii) any willful or negligent act or omission of the Customer, or its employees or agents in connection with the performance of this Agreement.

Force Majeure

EQ shall not be liable for any failure to accept, receive, handle, treat, and/or dispose of Delivered Waste due to an act of God, fire, casualty, flood, war, strike, lockout, labor trouble, failure of public utilities, equipment failure, facility shutdown, injunction, accident, epidemic, riot, insurrection, destruction of operation or transportation facilities, the inability to procure materials, equipment, or sufficient personnel or energy in order to meet operational needs without the necessity of allocation, the failure or inability to obtain any governmental approvals or to meet Environmental Requirements (including, but not limited to voluntary or involuntary compliance with any act, exercise, assertion, or requirement of any governmental authority) which may temporarily or permanently prohibit operations of EQ, the Customer, or the Generator, or any other circumstances beyond the control of EQ which prevents or delays performance of any of its obligations under this Agreement.

Governing Laws

This Agreement shall in all respects be governed by and shall be construed in accordance with the laws of the State of Michigan applied to contracts executed and performe wholly within such state.

Bulk Disposal Charges

Quoted bulk disposal charges for solid materials will be billed by the cubic yard, if the waste density is less than 2,000lbs./cubic yard. If waste density is greater than 2,000 lbs./cubic yard, then bulk disposal charges will be billed by the ton, regardless of the approved container.

Profile Tracking # 532456

WASTE PROFILE FORM

or assistance in completing this document or for additional information on service offerings, please visit our website at www.usecology.com or call 800-592-5489.

US Ecology will choose the appropriate facility and method of waste management for your waste from the technologies offered at each operation.

If you wish to direct this waste to a specific facility(s) or treatment technology please indicate here:

ATLANTA

Waste Common Name: RCRA EMPTY DRUMS

Section 1 - Generator & Customer Information

Generator EPA ID # SC7-570-024-821

Generator AIR FORCE CIVIL ENGINEER CENTER

Facility Address FTA W OF HARRELSON BLVD

City MYRTLE BEACH State SC Zip 29577

24-hour Emergency Response Number ( ) -

Mailing Address 706 HANGAR ROAD

City ROME State NY Zip 13441

Generator Contact TRAVIS STANLEY

Title FIELD MANAGER

Phone (865) 607-1501 Fax ( ) -

E-mail TRAVIS.STANLEY@AMECFW.COM

Internal Use Only: EQ Division

EQ Customer No. 15854

Invoicing Company AMEC ENVIRONMENT & INFRASTRUCTURE

Address 9210 SKY PARK COURT #200

City SAN DIEGO State CA Zip 92123

Country USA

Invoicing Contact TAMMY RIPPIE

Phone ( ) - Fax (858) 300-4301

Technical Contact BONANI LANGAN

Phone (919) 765-9977 Fax (919) 381-9901

Cell Phone (919) 564-9999

E-mail bonani.langan@amecfw.com

Section 2 - Shipping & Packaging Information

2.1) Shipping Volume & Frequency:

a) Volume of Waste to be Shipped: 3 DM55

b) Frequency: ● One Time ○ Month ○ Quarter ○ Year ○ Other

2.2) DOT Information

a) Is this a U.S. Department of Transportation (USDOT) Hazardous Material? ○ Yes ● No

b) If "Yes", indicate the proper shipping name per 49 CFR 172.101 Hazardous Materials Table:

NON-HAZARDOUS, NON DOT REGULATED MATERIAL

Section 3 - Special Properties

3.1) Color VARIES

3.2) Odor ☑ None ☐ Ammonia ☐ Amines ☐ Mercaptans ☐ Sulfur ☐ Organic Acid ☐ Amines/Ammonia ☐ Other:

3.3) Consistency at 70 °F: ☑ Solid ☐ Dust/Powder ☐ Debris ☐ Sludge ☐ Liquid ☐ Gas/Aerosol ☐ Varies

3.4) What is the pH? ☐ ≤2 ☐ 2.1-4.9 ☐ 5-10 ☐ 10.1-12.4 ☐ ≥12.5 ☑ N/A

3.5) What is the flash point? ☐ <90 °F ☐ 90-139 °F ☐ 140-199 °F ☐ ≥200 °F ☑ N/A

3.6) Does this waste exhibit any of the following properties? **(check all that apply)**

☑ **None**	☐ Free Liquids	☐ Metal Fines	☐ Water Reactive	☐ Biohazard
☐ Shock Sensitive	☐ Oily Residue	☐ Dioxins	☐ Furans	☐ Aluminum
☐ Asbestos -non- friable	☐ Asbestos - friable	☐ Other Radioactive	☐ Air Reactive	☐ Isocyanates
☐ Biodegradable Sorbents	☐ Pyrophoric	☐ Reactive Sulfide	☐ Reactive Cyanide	☐ Explosives
☐ Temperature Controlled Organic Peroxide		☐ NORM	☐ TENORM	

Section 4 - Composition and Generating Process

4.1) Provide a physical and chemical composition of the waste (e.g. soil, water, PPE, debris, etc.). List the percent ranges or the concentration of each component, either estimated or known.

RCRA EMPTY DRUMS _____ 100. to 100. %

4.2) Provide a description of the generating process. *Remediation & IDW Sites: please provide a site history.*

UNUSED RCRA EMPTY DRUMS

4.3) Are there any known previous handling or treatment issues involving this waste? ○ Yes* ● No

*If yes, describe: _____

Section 5 - Hazardous Wastes

As determined by 40 CFR, Part 261 and State Rules: **Please list applicable waste code(s):**

5.1) Is this waste exempted from RCRA? ○ Yes ● No

If Yes, please provide exemption: _____

5.2) Is this an EPA RCRA listed hazardous waste (F, K, P or U)? ○ Yes ● No

a) For F006-F009, F012, does this come from a generator that conducts a cyanide plating process? ○ Yes ● No

5.3) Is this an EPA RCRA characteristic hazardous waste (D001-D043)? ○ Yes ● No

5.4) Do any State Specific Hazardous Waste Codes apply? ○ Yes ● No

If you answered 'no' to 5.2, 5.3 and 5.4, please proceed to Section 6.

5.5) EPA Source Code: _____ EPA Form Code: _____

5.6) Waste Code Determination Is Based On: ✓ Generator Knowledge ☐ Analysis ☐ MSDS

Analysis and/or MSDS may be required for review and approval for hazardous and non-hazardous waste streams.

5.7) Does this waste exceed Land Disposal Restriction levels? ○ Yes ● No

a) Is this stream a wastewater (WW) or non-wastewater (NWW)? ○ WW ○ NWW

b) If this waste stream is greater than 50% soil, does it meet the alternative soil treatment standards of 40 CFR 268.49? ○ Yes ○ No

c) Does this waste contain greater than 50% debris, by volume? (Debris is greater than 2.5 inches in size.) ○ Yes ○ No

d) If the debris is larger than 3 ft x 3 ft x 3 ft, please provide the approximate dimensions and weight:

5.8) If this is a characteristic hazardous waste, does it contain Underlying Hazardous Constituents? ○ Yes* ○ No

*If Yes, please list: _____

For a complete list of UHC constituents, please refer to 40 CFR 268.48

Section 6 - Non-Hazardous Wastes

Please list applicable waste code(s):

6.1) Do any State Specific Non-Hazardous Waste Codes apply? ○ Yes ● No

6.2) Is this a Universal (UNIV) waste or a Recyclable Good (RG) ? ○ UNIV ○ RG ● N/A

6.3) Is this waste used oil as defined by 40 CFR Part 279? ○ Yes ● No

a) If yes, is the total halogen content of the used oil waste stream greater than 1,000 ppm? ○ Yes ○ No

b) If yes, what is the source of the halogen content?

○ This is a metalworking oil/fluid containing chlorinated paraffins.
○ This is a used oil contaminated with chlorofluorocarbons from refrigeration units.
○ This oil contains halogenated solvents. List specific solvents: _____
○ Other, describe: _____

Section 7 - TSCA Information

7.1) What is the concentration of PCBs in the waste? ☑ None ☐ 0-49 ppm ☐ 50-499 ppm ☐ 500+ ppm

7.2) Does the waste contain PCB contamination from a source with a concentration ≥ 50 ppm? ○ Yes ● No ○ Unknown

If you answered "none" or '0-49 ppm' to 7.1 and "no" to 7.2, please proceed to Section 8.

7.3) Has this waste been processed into a non-liquid form? ○ Yes* ○ No

*If yes, what was the concentration of PCBs prior to processing? ○ 0-499 ppm ○ 500+ ppm

7.4) Is this non-liquid PCB waste in the form of soil, rags, debris, or other contaminated media? ○ Yes ○ No

7.5) Are you a PCB capacitor manufacturer or a PCB equipment manufacturer? ○ Yes ○ No

7.6) Has the PCB Article (e.g., transformer, hydraulic machine, PCB-contaminated electrical equipment) been drained/flushed of all PCBs and decontaminated in accordance with 40 CFR 761.60(b)? ○ Yes ○ No ○ N/A

Section 8 - Clean Air Act Information

8.1) Is this waste subject to regulation under 40 CFR, Part 264, Subpart CC (VOC > 500 ppmw)? ○ Yes ● No

8.2) Is this waste subject to regulation under 40 CFR, Part 63, Subpart DD (VOHAP > 500 ppmw)? ○ Yes ● No

8.3) Is the site, or waste, subject to any other NESHAP/MACT standard(s)? ○ Yes* ● No

*If Yes this document serves as notification that this waste contains chemicals _____, required to be managed in accordance with Part ○ 61 ○ 62 ○ 63 Subpart _____ of NESHAP/MACT standards.

8.4) Does this waste stream contain Benzene? ○ Yes ● No

If you answered "no" to 8.4, please proceed to Section 9.

8.5) Does the waste stream come from a facility subject to 40 CFR 61, Subpart FF (Benzene NESHAP)? ○ Yes ○ No

If Yes, please provide the SIC/NAICS code: _____

If you answered "no" to 8.5, please proceed to Section 9.

8.6) Does your facility manage the waste subject to Benzene NESHAP in a manner other than shipping off-site? ○ Yes ○ No

If Yes, please specify: _____

8.7) Is the generating source of this waste a facility with Total Annual Benzene (TAB) ≥10 Mg/year? ○ Yes ○ No

8.8) Does the waste contain >10% water? ○ Yes ○ No

8.9) What is the TAB quantity for your facility? _____ Mg/year

8.10) What is the total Benzene concentration in your waste? _____ Percent or _____ ppmw.

Supporting analysis must be attached. Do not use TCLP analytical results. Acceptable laboratory methods include 8020, 8240, 8260, 602 and 624.

Section 9 - Certification

I certify that all information (including attachments) is complete and factual and is an accurate representation of the known and suspected hazards, pertaining to the waste described herein. I authorize EQ's personnel to add supplemental information to the waste approval file, provided I am contacted and give verbal permission. I authorize EQ's personnel to obtain a sample from any waste shipment for purposes of verification and confirmation. I agree that, if EQ approves the waste described herein, all such wastes that are transported, delivered, or tendered to EQ by Generator or on Generator's behalf shall be subject to, and Generator shall be bound by, the attached Standard Terms and Conditions.

If I am an agent acting on behalf of the generator, I also certify that I have permission to sign any and all waste characterization paperwork on the generator's behalf and that I can produce such certification in writing upon request.

Generator Signature _____ Printed Name Catherine Jerrard

Company Air Force Civil Engineer Center Title BRAC Environmental Coordinator Date 5/27/2016

STANDARD TERMS AND CONDITIONS

The Agreement between the Customer and EQ - The Environmental Quality Company and/or its member companies (hereinafter "EQ") related to or associated with Delivered Waste, as herein defined, shall be governed by the following Standard Terms and Conditions in addition to the terms and conditions contained in any Waste Profile Form, Customer Approval Quote Confirmation, Generator Approval Notification, Notice of Waste Approval Expiration, and/or Credit Agreement associated with such Delivered Waste.

The Customer may use its standard forms (such as purchase orders, acknowledgments of orders, and invoices) to administer its dealings under this Agreement for convenience purposes, but all provisions thereof in conflict with these terms and conditions shall be deemed stricken.

Definitions

"Acceptable Waste" shall mean any hazardous waste, as defined under applicable State or federal law, determined by EQ as acceptable for treatment and/or disposal in accordance with this Agreement.

"Delivered Wastes" shall mean all wastes (i) which are transported, delivered, or tendered to EQ by the Customer; (ii) which the Customer has arranged for the transport, delivery or tender to EQ; or (iii)) which are transported, delivered, or tendered to EQ under a Credit Agreement between the Customer and EQ.

"Non-Conforming Wastes" shall mean wastes that (a) are not in accordance in all material respects with the warranties, descriptions, specifications or limitations stated in the Waste Profile Form and this Agreement; (b) have constituents or components of a type or concentration not specifically identified in the Waste Profile Form (i) which increase the nature or extent of the hazard and risk undertaken by EQ in treating and/or disposing of the waste, or (ii) for whose treatment and/or disposal a Waste Management Facility is not designed or permitted, or (iii) which increase the cost of treatment and/or disposal of waste beyond that specified in EQ's price quote; or (c) are not properly packaged, labeled, described, or placarded, or otherwise not in compliance with United States Department of Transportation and United States Environmental Protection Agency regulations.

Control of Operations.

EQ shall have sole control over all aspects of the operation of any treatment and/or disposal facility of EQ receiving Delivered Wastes under this Agreement (hereinafter, "Waste Management Facility"), including, without limitation, maintaining EQ's desired volume of Acceptable Wastes being delivered to any Waste Management Facility by the Customer or any other person or entity.

Identification of Waste.

For each waste material to be transported, delivered, or tendered to EQ under this Agreement, the Customer shall provide, or cause to be provided, to EQ a representative sample of the waste material and a completed Waste Profile Form containing a physical and chemical description or analysis of such waste material, which description shall conform with any and all guidelines for waste acceptance provided by EQ. On the basis of EQ's analysis of such representative sample of the waste material and such Waste Profile Form, EQ will determine whether such wastes are Acceptable Wastes. EQ does not make any guarantee that it will handle any waste material or any particular quantity or type of waste material, and EQ reserves the right to the decline to transport, treat and/or dispose of waste material. The Customer shall promptly furnish to EQ any information regarding known, suspected or planned changes in the composition of the waste material. Further, the Customer shall promptly inform EQ of any change in the characteristic or condition of the waste material which becomes known to the Customer subsequent to the date of the Waste Profile Form.

Non-Conforming Wastes.

In the event that EQ at any time discovers that any Delivered Waste is Non-Conforming Waste, EQ may reject or revoke its acceptance of the Non-Conforming Waste. The Customer shall have seven (7) days to direct an alternative lawful manner of disposition of the waste, unless it is necessary by reason of law or otherwise to move the Non-Conforming Waste prior to expiration of the seven (7) day period. If the Customer does not direct an alternative disposal, at its option, EQ may return any such Non-Conforming Wastes to the Customer, and the Customer shall pay or reimburse EQ for all costs and expenses incurred by EQ in connection with the receipt, handling, sampling, analyses, transportation and return to the Customer of such Non-Conforming Wastes. If it is impossible or impractical for EQ to return the Non-Conforming Waste to the Customer, the Customer shall reimburse EQ for all costs, of any type or nature whatsoever, incurred by EQ, solely because such Delivered Waste was Non-Conforming Waste (including, but not limited to, all costs associated with any remedial steps necessary, due to the nature of the Non-Conforming Waste, in connection with material with which the Non-Conforming Waste may have been commingled and all expenses and charges for analyzing, handling, locating, preparing for transporting, storing and disposing of any Non-Conforming Waste).

Customer Warranty - Acceptable Wastes.

All Delivered Wastes shall be Acceptable Wastes and shall conform in all material respects to the description and specifications contained in the Waste Profile Form. The information set forth in the Waste Profile Form or any manifest, placard or label associated with any Delivered Wastes, or otherwise represented by the Customer or the generator (if other than t Customer) to EQ, is and shall be true, accurate and complete as of the date of receipt of the involved waste by EQ.

Customer Warranty - Title to Wastes.

Either the Customer or the generator (if other than the Customer) shall hold clear title, free of any all liens, claims, encumbrances, and charges to Delivered Waste until such waste is accepted by EQ.

Customer Warranty - Compliance with Laws.

The Customer shall comply with all applicable federal, state and local environmental statutes, regulations, and other governmental requirements, as well as directives issued by EQ from time to time, governing the transportation, treatment and/or disposal of Acceptable Wastes, including, but not limited to, all packaging, manifesting, containerization, placarding and labeling requirements.

Customer Warranty - Updating Information.

If the Customer receives information that Delivered Waste or other hazardous waste described in the Waste Profile Form, or some component of such waste, presents or may present a hazard or risk to persons, property or the environment which was not disclosed to EQ, or if the Customer or generator (if other than the Customer) has changed the process by which such waste results, the Customer shall promptly report such information to EQ in writing.

Customer Indemnity.

The Customer shall indemnify, defend and hold harmless EQ, and its affiliated or related companies, and all of their respective present or future officers, directors, shareholders, employees and agents from and against any and all losses, damages, liabilities, penalties, fines, forfeitures, demands, claims, causes of action, suits, costs and expenses (including, but not limited to, reasonable costs of defense, settlement, and reasonable attorneysÆ fees), which may be asserted against any or all of them by any person or any governmental agency, or which any or all of them may hereafter suffer, incur, be responsible for or pay out, as a result of or in connection with bodily injuries (including, but not limited to, death, sickness, disease and emotional or mental distress) to any person (including EQ's employees), damage (including, but not limited to, loss of use) to any property (public or private), or any requirements to conduct or incur expense for investigative, removal or remedial expenses in connection with contamination of or adverse effect on the environment, or any violation or alleged violation of any statutes, ordinances, orders, rules or regulations of any governmental entity or agency, caused or arising out of (i) a breach of this Agreement by the Customer, (ii) the failure of any warranty of the Customer to be true, accurate and complete, or (iii) any willful or negligent act or omission of the Customer, or its employees or agents in connection with the performance of this Agreement.

Force Majeure.

EQ shall not be liable for any failure to accept, receive, handle, treat, and/or dispose of Delivered Waste due to an act of God, fire, casualty, flood, war, strike, lockout, labor trouble, failure of public utilities, equipment failure, facility shutdown, injunction, accident, epidemic, riot, insurrection, destruction of operation or transportation facilities, the inability to procure materials, equipment, or sufficient personnel or energy in order to meet operational needs without the necessity of allocation, the failure or inability to obtain any governmental approvals or to meet Environmental Requirements (including, but not limited to voluntary or involuntary compliance with any act, exercise, assertion, or requirement of any governmental authority) which may temporarily or permanently prohibit operations of EQ, the Customer, or the Generator, or any other circumstances beyond the control of EQ which prevents or delays performance of any of its obligations under this Agreement.

Governing Laws

This Agreement shall in all respects be governed by and shall be construed in accordance with the laws of the State of Michigan applied to contracts executed and performed wholly within such state.

Bulk Disposal Charges

Quoted bulk disposal charges for solid materials will be billed by the cubic yard, if the waste density is less than 2,000lbs./cubic yard. If waste density is greater than 2,000 lbs./c yard, then bulk disposal charges will be billed by the ton, regardless of the approved container.

CT LABORATORIES

delivering more than data from your environmental analyses

ANALYTICAL RESULTS FOR:

MELISSA HELTON
AMEC FOSTER WHEELER
10670 WHITE ROCK ROAD
SUITE 100
RANCHO CORDOVA, CA 95670

PROJECT SITE:	MYRTLE BEACH, SC
DOD CONTRACT #:	FA8903-08-D-8766
PROJECT #:	775290177
SDG:	112835
PREPARED:	August 14, 2015

TOTAL # OF PAGES IN THIS DOCUMENT: 316

The data contained in the following report have been reviewed by the appropriate CT Laboratories' LLC staff members. In addition, CT Laboratories LLC certifies that to the best of our knowledge that the analyses reported herein are true, complete and correct within the limits of the methods employed and that they follow the applicable requirements as specified by the project plan, state-specific, NELAC or DOD QSM requirements. The estimated uncertainty of measurement is only available upon request. The reported results relate only to the tested samples. This report shall not be reproduced, except in full, without written approval of CT Laboratories LLC.

APPROVED BY: _____
LABORATORY DIRECTOR

APPROVED BY: _____
QA OFFICER

APPROVED BY: Patrick Letterer
PROJECT MANAGER

Certifications: IL (NELAP 002413), KS (NELAP E-10368), KY (0023), NC (674), WI (157066030), DOD ELAP (A2LA 3806.01), VA (7608), MD (344), LA (NELAP 115843), ISO17025 (A2LA 3806.01, GA EDP Stipulation (Accreditor: LA NELAP, ACC#: E971111, Scope: Non-potable water solid and chemical materials, biological tissue, Effective: 12/10/2014, Expires: annually)

ACCREDITED IN ACCORDANCE WITH nelac

CT LABORATORIES

delivering more than data from your environmental analyses

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Case Narrative

Client: AMEC Foster Wheeler
Project: Myrtle Beach AB, SC
Sample Receipt Date: 07/27/2015
SDG #: 112835

One water and one soil samples and a Trip Blank were received for RCRA 8 Metals, sulfide, cyanide, flashpoint, pH, GRO, DRO/RRO, PCB, Pesticide, SVOC, VOC and herbicide analysis. The assigned sample ID number, date sampled, and date received are indicated in the attached Project Summary. The samples were received intact and at a temperature within method specified acceptance limits. A breakdown of sample receipt information can be found on the Sample Condition Report located in the last section of the data package and any exceptions are noted below. The analyses were performed following DOD QSM 5.

Sample Analysis and Quality Control

Volatile Analysis:

The samples were analyzed using US EPA Method 8260C. All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Surrogate Recovery Data
Matrix Spike/Matrix Spike Duplicate Recovery Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log
Chromatograms

All analysis results met the method/project specified quality control criteria with following exceptions:

Manual integrations may have been performed on the data provided with this package. If manual integrations were performed, a Reason #(s) was included on the raw data that corresponds to the "Index Key for Manual Integration Rationale." The raw data includes a "Before" and "After" manual integration illustration. The manual integrations were initialed and dated by the analyst, as well as, by the person reviewing the data.

8260 Water Analyses

Compounds that may not meet the recommended minimum average response factor (ARF) criteria for 8260C (such as several of the ketones) are analyzed at concentrations 2 to 50 times higher than normal to make up for their lack of response. However, the ARF on the response factor (RF) forms do not reflect this change in concentration. These compounds may be "flagged" on RF forms as a result.

Client: AMEC Foster Wheeler
Project: Myrtle Beach AB, SC
Sample Receipt Date: 07/27/2015
SDG #: 112835

Volatile Analysis Continued:

Analytical Run # 117175

Level 8 was not used for vinyl acetate, 4-methyl-2-pentanone, acetone, naphthalene, and 2-hexanone on the initial calibration curve (W080315) due to loss in linearity. 4-Methyl-2-pentanone, 2-hexanone, and methylene chloride were calibrated using quadratic regression (two ICV's were analyzed for these compounds). Bromomethane had a high recovery on the ICV. This compound was qualified with a "Z" flag on all associated samples. Acetone, iodomethane, and methylene chloride were detected in the ICB.

Analytical Run # 117326 (TCLP)

All analytical results for this run met the method/project specified quality control criteria for targeted compounds.

Gasoline Range Organics Analysis:

The samples were analyzed using US EPA Method 8015. All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Surrogate Recovery Data
Matrix Spike/Matrix Spike Duplicate Recovery Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log
Chromatograms

All analysis results met the method/project specified quality control criteria with following exceptions:

8015 GRO Water Analyses

Analytical Run # 117222

There were not enough sample vials to analyze a MS and a MSD with this run.

Client: AMEC Foster Wheeler
Project: Myrtle Beach AB, SC
Sample Receipt Date: 07/27/2015
SDG #: 112835

Gasoline Range Organics Analysis Continued:

8015 GRO Soil Analyses

Analytical Run # 117178

All analytical results for this run met the method/project specified quality control criteria.

Semi-Volatile Analysis:

The samples were analyzed using US EPA Method 8270D. All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Surrogate Recovery Data
Matrix Spike/Matrix Spike Duplicate Recovery Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log
Chromatograms

All analysis results met the method/project specified quality control criteria with following exceptions:

8270 Analyses

Analytical run 117308 (Water)

Sample 612629 had low recoveries of surrogates nitrobenzene-d5, 2-fluorobiphenyl and terphenyl-d14. These were qualified with an "S".

Analytical run 117414 (TCLP)

All analysis results met the method/project specified quality control criteria

Diesel Range Organics Analysis:

The samples were analyzed using US EPA Method 8015. All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Client: AMEC Foster Wheeler
Project: Myrtle Beach AB, SC
Sample Receipt Date: 07/27/2015
SDG #: 112835

Diesel Range Organics Analysis Continued:

Surrogate Recovery Data
Matrix Spike/Matrix Spike Duplicate Recovery Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log
Chromatograms

All analysis results met the method/project specified quality control criteria with following exceptions:

8015B DRO Analyses

Analytical Run # 117361

CCV #3 on sequence 083015droero was above QC limits for Octacosane. The one client sample was re-run for failing low surrogate between two passing CCVs.

Sample 612629 was below QC limits for Octacosane. This was confirmed by a re-run. The sample was "S" flagged.

Analytical Run # 117445
The MS and MSD, analyzed on sample 612628, were diluted 1:10 due to matrix effect.

Pesticide Analysis:

The samples were analyzed using US EPA Method 8081A. All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Surrogate Recovery Data
Matrix Spike/Matrix Spike Duplicate Recovery Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log
Chromatograms

All analysis results met the method/project specified quality control criteria with following exceptions:

Client: AMEC Foster Wheeler
Project: Myrtle Beach AB, SC
Sample Receipt Date: 07/27/2015
SDG #: 112835

Pesticide Analysis Continued:

8081 Pesticide Analyses

Analytical Run 117298

Tox/chlor CCV 059 (073115 08:43) had a low response of tox peak #4 on channel A. All totals within the QC limits.

Tox/chlor CCVs 043 and 049 had various individual peaks outside the QC limits. All totals were within the QC limits.

Sample 612629 had a low recovery of surrogate DCB. This was confirmed by re-analysis, and qualified with an "S".

The original sample data (612078) associated with the MS/MSD is on SDG 112824.

Analytical Run 117372

Ending CCV 053 had high responses for delta-BHC, 4,4'-DDE, and 4,4'-DDD. These analytes are not on the TCLP list and were not reported.

The original sample data (611161) associated with the MS614676 is on SDG 112776.

PCB Analysis:

The samples were analyzed using US EPA Method 8082A. All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Surrogate Recovery Data
Matrix Spike/Matrix Spike Duplicate Recovery Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log
Chromatograms

All analysis results met the method/project specified quality control criteria with following exceptions:

Client: AMEC Foster Wheeler
Project: Myrtle Beach AB, SC
Sample Receipt Date: 07/27/2015
SDG #: 112835

PCB Analysis Continued:

8082 PCB

Analytical Run 117299

CCV's #3, # 19, #63, and #68 all had one or more peaks for 1016 and/or 1260 outside QC limits, but their totals for 1016 and 1260 passed.

The original sample data (612078) associated with the MS/MSD is on SDG 112824.

Analytical Run 117473

All results were within QC/program limits.

Metals Analysis:

The samples were analyzed using US EPA SW-846 methodology 6010C for the ICP metals and 7470A for the mercury. All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Initial and Continuing Calibration Verification
Blanks Summary
ICP Interference Check Data
Spike Sample Recovery
Duplicates Data
Laboratory Control Sample Data
Analysis Run Log

All analysis results met the method specified quality control criteria with the following exceptions:

ICP Metals Analyses

Continuing Calibration Verification (CCV) standards were analyzed at two levels (CCV1 & CCV2) with potentially differing wavelengths. Data associated with CCV's were evaluated based on the concentration of the element in the samples and compared to the appropriate CCV level/wavelength.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Client: AMEC Foster Wheeler
Project: Myrtle Beach AB, SC
Sample Receipt Date: 07/27/2015
SDG #: 112835

Metals Analysis Continued:

Analytical Run # 117186

Chromium and selenium were detected in the Method Blank (MB) greater than the Method Detection Limit (MDL) but less than ½ the Reporting Limit (RL). Affected sample results were reported and qualified with a "B" flag when the MB result was greater than 1/10th of the sample results.

The Serial Dilution (L) for sample # 612629 was not applicable for silver, arsenic, cadmium, chromium, lead, and selenium because the parent sample raw results were less than 50 times the Limit of Quantitation (LOQ). A Post Digestion Spike (PDS) was analyzed and was acceptable. The parent sample was reported and not qualified.

The L for sample # 612629 was not acceptable for barium because the result exceeded the Relative Percent Difference (RPD) limit. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The Duplicate (DUP) for sample # 612629 was not applicable for selenium, silver, arsenic, cadmium, and lead because the parent sample results were less than five times the LOQ. A Matrix Spike Duplicate (MSD) was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

Analytical Run # 117240

Arsenic, barium, and selenium were detected in the MB greater than the MDL but less than ½ the RL. Affected sample results were reported and qualified with a "B" flag when the MB result was greater than 1/10th of the sample results.

The L for sample # 612627 was not applicable for silver, arsenic, cadmium, chromium, lead, and selenium because the parent sample raw results were less than 50 times the LOQ. A PDS was analyzed and was unacceptable for lead and selenium. The parent sample was reported and qualified with an "M" flag for the failing elements.

The L for sample # 612627 was not acceptable for barium because the result exceeded the RPD limit. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The DUP for sample # 612627 was not applicable for lead, selenium, silver, arsenic, cadmium, and chromium because the parent sample results were less than five times the LOQ. An MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

Client: AMEC Foster Wheeler
Project: Myrtle Beach AB, SC
Sample Receipt Date: 07/27/2015
SDG #: 112835

Metals Analysis Continued:

The Matrix Spike (MS) and MSD for sample # 612627 exceeded the recovery limit for cadmium and lead. A PDS was analyzed and was unacceptable for lead. The parent sample was reported and qualified with an "M" flag for the failing element.

CVAA Mercury Analysis

Analytical Run # 117281

The L for sample # 612627 was not applicable for mercury because the parent sample raw result was less than 50 times the LOQ. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The DUP for sample # 612627 was not applicable for mercury because the parent sample result was less than five times the LOQ. An MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

Analytical Run # 117289

Mercury was detected in the MB greater than the MDL but less than ½ the RL. The MB was reanalyzed and was acceptable. The samples were reported and not qualified.

The L for sample # 612629 was not applicable for mercury because the parent sample raw result was less than 50 times the LOQ. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The DUP for sample # 612629 was not applicable for mercury because the parent sample result was less than five times the LOQ. An MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

Inorganic Analyses:

The samples were analyzed using US EPA Methods 1010, 9040C, 9012A, and 9034. All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Duplicate Analysis Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary

Client: AMEC Foster Wheeler
Project: Myrtle Beach AB, SC
Sample Receipt Date: 07/27/2015
SDG #: 112835

Inorganic Analyses Continued:

Analysis Run Log
Prep Log

All analysis results met the method specified quality control criteria with the following exceptions:

Cyanide Analyses

Analytical Run #117184

All analysis results for this SDG met the method/project specified quality control criteria.

Analytical Run #117202

All analysis results for this SDG met the method/project specified quality control criteria.

Flashpoint Analyses

Analytical Run # 117402

All analysis results for this SDG met the method/project specified quality control criteria.

pH Analyses

Analytical Run #117208

All analysis results for this SDG met the method/project specified quality control criteria.

Sulfide Analyses

Analytical Run #117148

All analysis results for this SDG met the method/project specified quality control criteria.

% Solids Analyses

Analytical Run # 117196

All analysis results for this SDG met the method/project specified quality control criteria.

Data Qualifiers

Code	Description
A	Analyte averaged calibration criteria within acceptable limits.
B	Analyte detected in associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was not above the detection level.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Calibration criteria exceeded.

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MANUAL INTEGRATION REASON CODES

CTLaboratories has identified four general cases with valid reasons supporting the use of manual integration techniques. These codes are used on chromatograms in this data package to document the reasons for manual integrations per CTLaboratories' SOP SS-10 current revision.

#1: **Data system failed to select the correct peak or missed the peak entirely.**
In some cases the chromatography system selects and integrates the "wrong peak". In this case the analyst must correct the selection and force the system to integrate the proper peak. In other instances the system may miss the peak completely. In this case the analyst manually integrated the peak

#2: **Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak.**
This phenomenon is common at low concentrations where the signal to noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low or high area counts for the target compound.

#3: Improperly Integrated Isomers and/or coeluting compounds.
For when the system fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations may be inaccurate, and they must be corrected by manual integration. Prime examples are compounds that are unresolved and integrated improperly when present at low concentrations in standards or samples.

#4: System Established Incorrect Baseline.
There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and may be corrected via manual procedures.

#5: Miscellaneous.
Some situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the group supervisor. If the form of manual integration is not clearly covered by these four cases, then review and approval by the group supervisor or the *QA/QC* Supervisor will be required.

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1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

Sample Delivery Group

112835

AMEC FOSTER WHEELER
MELISSA HELTON
10670 WHITE ROCK ROAD
SUITE 100
RANCHO CORDOVA, CA 95670

Project Name: MYRTLE BEACH
Project #: 775290177

CT Sample #	Folder #	Client Sample #	Sample Description	Matrix	Date Sampled	Date Received
612627	112835		MYRTL-IDW-SO-01	TCLP	07/24/2015	07/27/2015
612628	112835		MYRTL-IDW-SO-01	SOIL	07/24/2015	07/27/2015
612629	112835		MYRTL-IDW-GW-01	GROUND WATER	07/24/2015	07/27/2015
612630	112835		MYRTL-IDW-GW-01TB	TRIP BLANK	07/24/2015	07/27/2015

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QC Batch Cross Reference Summary

AMEC FOSTER WHEELER
MELISSA HELTON
10670 WHITE ROCK ROAD
SUITE 100
RANCHO CORDOVA, CA 95670

Project Name:	MYRTLE BEACH
Project #:	775290177
Report Date:	08/11/2015
Date Received:	07/27/2015
SDG #:	112835

Inorganic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
612628	Solids, Percent	EPA 8000C	SOIL		117196

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
612628	pH	EPA 9040C	SOIL		117208
612629	pH	EPA 9040C	GROUND WATER		117208

AB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
612628	Flashpoint	EPA 1010	SOIL		117402
612629	Flashpoint	EPA 1010	GROUND WATER		117402

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
612628	Cyanide QSM	EPA 9012A	SOIL	53516	117202
612629	Cyanide QSM	EPA 9012A	GROUND WATER	53508	117184

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
612629	Sulfide, Total QSM	EPA 9034	GROUND WATER		117148

Metal Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
612627	ICP Metals QSM TCLP 5.0	EPA 6010C	TCLP	53533	117240

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
612629	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	53498	117186

LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
27	Mercury QSM TCLP	EPA 7470A	TCLP	53540	117281

CT LABORATORIES

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Project Name: MYRTLE BEACH
Project #: 775290177
SDG #: 112835

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run
612629	Mercury, Total QSM	EPA 7470A	GROUND WATER	53544	117289

Organic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
612627	Pesticides TCLP	EPA 8081B	TCLP	53547	117372

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
612628	GRO QSM 5.0	EPA 8015C	SOIL	53502	117178
612629	GRO QSM 5.0	EPA 8015C	GROUND WATER		117222

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
612629	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		117175
612630	VOC's by 8260 QSM 5.0	EPA 8260C	TRIP BLANK		117175

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
612627	VOC's by 8260 TCLP 5.0	EPA 8260C	TCLP		117326

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
612628	PCB	EPA 8082A	SOIL	53525	117473
612629	PCB	EPA 8082A	GROUND WATER	53526	117299

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
612629	Pesticides	EPA 8081B	GROUND WATER	53527	117298

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
612629	SVOC 8270 QSM	EPA 8270D	GROUND WATER	53524	117308

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
612628	DRO 8015 QSM	EPA 8015C	SOIL	53557	117445
612629	DRO 8015 QSM	EPA 8015C	GROUND WATER	53549	117361

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
612627	SVOC 8270 QSM TCLP	EPA 8270D	TCLP	53550	117414

VOLATILE ORGANIC ANALYSIS
QUALITY CONTROL SUMMARY
DOCUMENTS

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1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **MYRTL-IDW-GW-01**

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	GROUND WATER	SDG No.:	112835
Sample wt/vol:	(g/mL)	CTL Sample ID:	612629
% Solids:		Date Received:	07/27/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	117175	Dilution Factor:	1.00
Date & Time Analyzed:	07/30/2015 / 05:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072815.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
630-20-6	1,1,1,2-Tetrachloroethane	0.50	U	0.24	0.50	1.0	1.0
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
563-58-6	1,1-Dichloropropene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-18-4	1,2,3-Trichloropropane	0.50	U	0.21	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
95-63-6	1,2,4-Trimethylbenzene	0.50	U	0.20	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
108-67-8	1,3,5-Trimethylbenzene	0.50	U	0.23	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
142-28-9	1,3-Dichloropropane	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
594-20-7	2,2-Dichloropropane	0.50	U	0.25	0.50	1.0	1.0
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
95-49-8	2-Chlorotoluene	0.50	U	0.22	0.50	1.0	1.0
591-78-6	2-Hexanone	10	U	4.0	10	20	20

CT LABORATORIES
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1A

VOLATILE ORGANICS ANALYSIS

Sample Description

MYRTL-IDW-GW-01

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	GROUND WATER	SDG No.:	112835
Sample wt/vol:	(g/mL)	CTL Sample ID:	612629
% Solids:		Date Received:	07/27/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	117175	Dilution Factor:	1.00
Date & Time Analyzed:	07/30/2015 / 05:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072815.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
106-43-4	4-Chlorotoluene	0.50	U	0.22	0.50	1.0	1.0
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	32		5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
108-86-1	Bromobenzene	0.50	U	0.20	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	0.50	U	0.50	0.50	1.0	1.0
75-15-0	Carbon disulfide	1.5		0.50	0.50	1.0	1.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.43	J	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
74-95-3	Dibromomethane	0.50	U	0.24	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
87-68-3	Hexachlorobutadiene	0.50	U	0.30	0.50	1.0	1.0
74-88-4	Iodomethane	1.0	U	0.50	1.0	4.0	4.0

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1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **MYRTL-IDW-GW-01**

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	GROUND WATER	SDG No.:	112835
Sample wt/vol:	(g/mL)	CTL Sample ID:	612629
% Solids:		Date Received:	07/27/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	117175	Dilution Factor:	1.00
Date & Time Analyzed:	07/30/2015 / 05:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072815.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
91-20-3	Naphthalene	1.0	U	0.40	1.0	2.0	2.0
104-51-8	n-Butylbenzene	0.50	U	0.23	0.50	1.0	1.0
103-65-1	n-Propylbenzene	0.50	U	0.20	0.50	1.0	1.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
99-87-6	p-Isopropyltoluene	0.50	U	0.23	0.50	1.0	1.0
135-98-8	sec-Butylbenzene	0.50	U	0.21	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
98-06-6	tert-Butylbenzene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
108-05-4	Vinyl acetate	5.0	U	3.0	5.0	10	10
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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1A

VOLATILE ORGANICS ANALYSIS

Sample Description

MYRTL-IDW-GW-01

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	GROUND WATER	SDG No.:	112835
Sample wt/vol:	(g/mL)	CTL Sample ID:	612629
% Solids:		Date Received:	07/27/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8015C	Analytical Prep Batch #	
Analytical Run #:	117222	Dilution Factor:	1.00
Date & Time Analyzed:	07/30/2015 / 12:38	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:		Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
GASCOMP	Gasoline Range Organics	29	J	23	50	100	100

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1A

Sample Description: MYRTL-IDW-GW-01TB

VOLATILE ORGANICS ANALYSIS

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	TRIP BLANK	SDG No.:	112835
Sample wt/vol:	(g/mL)	CTL Sample ID:	612630
% Solids:		Date Received:	07/27/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	117175	Dilution Factor:	1.00
Date & Time Analyzed:	07/30/2015 / 04:31	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072815.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
630-20-6	1,1,1,2-Tetrachloroethane	0.50	U	0.24	0.50	1.0	1.0
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
563-58-6	1,1-Dichloropropene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-18-4	1,2,3-Trichloropropane	0.50	U	0.21	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
95-63-6	1,2,4-Trimethylbenzene	0.50	U	0.20	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
108-67-8	1,3,5-Trimethylbenzene	0.50	U	0.23	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
142-28-9	1,3-Dichloropropane	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
594-20-7	2,2-Dichloropropane	0.50	U	0.25	0.50	1.0	1.0
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
95-49-8	2-Chlorotoluene	0.50	U	0.22	0.50	1.0	1.0
591-78-6	2-Hexanone	10	U	4.0	10	20	20

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VOLATILE ORGANICS ANALYSIS

Sample Description

MYRTL-IDW-GW-01TB

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	TRIP BLANK	SDG No.:	112835
Sample wt/vol:	(g/mL)	CTL Sample ID:	612630
% Solids:		Date Received:	07/27/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	117175	Dilution Factor:	1.00
Date & Time Analyzed:	07/30/2015 / 04:31	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072815.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
106-43-4	4-Chlorotoluene	0.50	U	0.22	0.50	1.0	1.0
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
108-86-1	Bromobenzene	0.50	U	0.20	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	0.50	U	0.50	0.50	1.0	1.0
75-15-0	Carbon disulfide	0.50	U	0.50	0.50	1.0	1.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
74-95-3	Dibromomethane	0.50	U	0.24	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
87-68-3	Hexachlorobutadiene	0.50	U	0.30	0.50	1.0	1.0
74-88-4	Iodomethane	1.0	U	0.50	1.0	4.0	4.0

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VOLATILE ORGANICS ANALYSIS

Sample Description: **MYRTL-IDW-GW-01TB**

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	TRIP BLANK	SDG No.:	112835
Sample wt/vol:	(g/mL)	CTL Sample ID:	612630
% Solids:		Date Received:	07/27/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	117175	Dilution Factor:	1.00
Date & Time Analyzed:	07/30/2015 / 04:31	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072815.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
91-20-3	Naphthalene	1.0	U	0.40	1.0	2.0	2.0
104-51-8	n-Butylbenzene	0.50	U	0.23	0.50	1.0	1.0
103-65-1	n-Propylbenzene	0.50	U	0.20	0.50	1.0	1.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
99-87-6	p-Isopropyltoluene	0.50	U	0.23	0.50	1.0	1.0
135-98-8	sec-Butylbenzene	0.50	U	0.21	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
98-06-6	tert-Butylbenzene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
108-05-4	Vinyl acetate	5.0	U	3.0	5.0	10	10
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

MYRTL-IDW-SO-01

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	TCLP	SDG No.:	112835
Sample wt/vol:	(g/mL)	CTL Sample ID:	612627
% Solids:		Date Received:	07/27/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	117326	Dilution Factor:	100.00
Date & Time Analyzed:	08/05/2015 / 11:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			07/30/2015 / 15:00
ICAL Calibration #:	W080315.	Concentration Units:	mg/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-35-4	1,1-Dichloroethene	0.025	U	0.024	0.025	0.050	0.050
107-06-2	1,2-Dichloroethane	0.050	U	0.030	0.050	0.10	0.10
78-93-3	2-Butanone	0.25	U	0.24	0.25	0.50	0.50
71-43-2	Benzene	0.025	U	0.019	0.025	0.050	0.050
56-23-5	Carbon tetrachloride	0.025	U	0.023	0.025	0.050	0.050
108-90-7	Chlorobenzene	0.025	U	0.024	0.025	0.050	0.050
67-66-3	Chloroform	0.025	U	0.015	0.025	0.050	0.050
127-18-4	Tetrachloroethene	0.050	U	0.030	0.050	0.10	0.10
79-01-6	Trichloroethene	0.025	U	0.021	0.025	0.050	0.050
75-01-4	Vinyl chloride	0.025	U	0.018	0.025	0.050	0.050

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VOLATILE ORGANICS ANALYSIS

Sample Description: **MYRTL-IDW-SO-01**

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	SOIL	SDG No.:	112835
Sample wt/vol:	7.27 (g/mL)	CTL Sample ID:	612628
% Solids:	86.2	Date Received:	07/27/2015
Soil Extract Vol:	5.0 (mL)	Date/Time Prepared:	07/29/2015 / 07:50
Analytical Method:	EPA 8015C	Analytical Prep Batch #	53502
Analytical Run #:	117178	Dilution Factor:	1.00
Date & Time Analyzed:	07/29/2015 / 13:25	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	8015p1s011215	Concentration Units:	mg/kg

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
GASCOMP	Gasoline Range Organics	2.4	U	1.0	2.4	4.8	4.8

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **METHOD BLANK**

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:		SDG No.:	112835
Sample wt/vol:	10.00 (g/mL)	CTL Sample ID:	613696
% Solids:		Date Received:	07/27/2015
Soil Extract Vol:	10.0 (mL)	Date/Time Prepared:	07/29/2015 / 07:50
Analytical Method:	EPA 8015C	Analytical Prep Batch #	53502
Analytical Run #:	117178	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	8015p1s011215	Concentration Units:	mg/kg

CAS NO.	Analyte	Analysis Date/Time	Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
GASCOMP	Gasoline Range Organics	07/29/2015 12:09	1.3	U	1.3	6.0	***3.0***

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1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **METHOD BLANK**

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:		SDG No.:	112835
Sample wt/vol:	(g/mL)	CTL Sample ID:	614469
% Solids:		Date Received:	07/27/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	117175	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072815.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
630-20-6	1,1,1,2-Tetrachloroethane	07/29/2015	21:20	0.24	U	0.24	1.00	***0.50***
71-55-6	1,1,1-Trichloroethane	07/29/2015	21:20	0.21	U	0.21	1.00	***0.50***
79-34-5	1,1,2,2-Tetrachloroethane	07/29/2015	21:20	0.19	U	0.19	1.00	***0.50***
79-00-5	1,1,2-Trichloroethane	07/29/2015	21:20	0.26	U	0.26	1.00	***0.50***
75-34-3	1,1-Dichloroethane	07/29/2015	21:20	0.20	U	0.20	1.00	***0.50***
75-35-4	1,1-Dichloroethene	07/29/2015	21:20	0.24	U	0.24	1.00	***0.50***
563-58-6	1,1-Dichloropropene	07/29/2015	21:20	0.24	U	0.24	1.00	***0.50***
87-61-6	1,2,3-Trichlorobenzene	07/29/2015	21:20	0.3	U	0.3	1.0	***0.5***
96-18-4	1,2,3-Trichloropropane	07/29/2015	21:20	0.21	U	0.21	1.00	***0.50***
120-82-1	1,2,4-Trichlorobenzene	07/29/2015	21:20	0.3	U	0.3	1.0	***0.5***
95-63-6	1,2,4-Trimethylbenzene	07/29/2015	21:20	0.20	U	0.20	1.00	***0.50***
96-12-8	1,2-Dibromo-3-chloropropane	07/29/2015	21:20	0.4	U	0.4	1.0	***0.5***
106-93-4	1,2-Dibromoethane	07/29/2015	21:20	0.16	U	0.16	0.50	***0.25***
95-50-1	1,2-Dichlorobenzene	07/29/2015	21:20	0.23	U	0.23	1.00	***0.50***
107-06-2	1,2-Dichloroethane	07/29/2015	21:20	0.3	U	0.3	1.0	***0.5***
78-87-5	1,2-Dichloropropane	07/29/2015	21:20	0.22	U	0.22	1.00	***0.50***
108-67-8	1,3,5-Trimethylbenzene	07/29/2015	21:20	0.23	U	0.23	1.00	***0.50***
541-73-1	1,3-Dichlorobenzene	07/29/2015	21:20	0.26	U	0.26	1.00	***0.50***
142-28-9	1,3-Dichloropropane	07/29/2015	21:20	0.26	U	0.26	1.00	***0.50***
106-46-7	1,4-Dichlorobenzene	07/29/2015	21:20	0.23	U	0.23	1.00	***0.50***
594-20-7	2,2-Dichloropropane	07/29/2015	21:20	0.25	U	0.25	1.00	***0.50***
78-93-3	2-Butanone	07/29/2015	21:20	2.4	U	2.4	10.0	***5.0***
95-49-8	2-Chlorotoluene	07/29/2015	21:20	0.22	U	0.22	1.00	***0.50***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **METHOD BLANK**

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:		SDG No.:	112835
Sample wt/vol:	(g/mL)	CTL Sample ID:	614469
% Solids:		Date Received:	07/27/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	117175	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072815.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
591-78-6	2-Hexanone	07/29/2015	21:20	4	U	4	20	***10***
106-43-4	4-Chlorotoluene	07/29/2015	21:20	0.22	U	0.22	1.00	***0.50***
108-10-1	4-Methyl-2-pentanone	07/29/2015	21:20	3	U	3	10	***5***
67-64-1	Acetone	07/29/2015	21:20	5	U	5	20	***10***
71-43-2	Benzene	07/29/2015	21:20	0.19	U	0.19	1.00	***0.50***
108-86-1	Bromobenzene	07/29/2015	21:20	0.20	U	0.20	1.00	***0.50***
74-97-5	Bromochloromethane	07/29/2015	21:20	0.19	U	0.19	1.00	***0.50***
75-27-4	Bromodichloromethane	07/29/2015	21:20	0.20	U	0.20	1.00	***0.50***
75-25-2	Bromoform	07/29/2015	21:20	0.22	U	0.22	1.00	***0.50***
74-83-9	Bromomethane	07/29/2015	21:20	0.5	U	0.5	1.0	***0.5***
75-15-0	Carbon disulfide	07/29/2015	21:20	0.5	U	0.5	1.0	***0.5***
56-23-5	Carbon tetrachloride	07/29/2015	21:20	0.23	U	0.23	1.00	***0.50***
108-90-7	Chlorobenzene	07/29/2015	21:20	0.24	U	0.24	1.00	***0.50***
75-00-3	Chloroethane	07/29/2015	21:20	0.4	U	0.4	2.0	***1.0***
67-66-3	Chloroform	07/29/2015	21:20	0.15	U	0.15	0.50	***0.25***
74-87-3	Chloromethane	07/29/2015	21:20	0.4	U	0.4	2.0	***1.0***
156-59-2	cis-1,2-Dichloroethene	07/29/2015	21:20	0.25	U	0.25	1.00	***0.50***
10061-01-5	cis-1,3-Dichloropropene	07/29/2015	21:20	0.19	U	0.19	1.00	***0.50***
124-48-1	Dibromochloromethane	07/29/2015	21:20	0.19	U	0.19	1.00	***0.50***
74-95-3	Dibromomethane	07/29/2015	21:20	0.24	U	0.24	1.00	***0.50***
75-71-8	Dichlorodifluoromethane	07/29/2015	21:20	0.26	U	0.26	1.00	***0.50***
100-41-4	Ethylbenzene	07/29/2015	21:20	0.22	U	0.22	1.00	***0.50***
76-13-1	Freon 113	07/29/2015	21:20	0.5	U	0.5	2.0	***1.0***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **METHOD BLANK**

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:		SDG No.:	112835
Sample wt/vol:	(g/mL)	CTL Sample ID:	614469
% Solids:		Date Received:	07/27/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	117175	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072815.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
87-68-3	Hexachlorobutadiene	07/29/2015	21:20	0.3	U	0.3	1.0	***0.5***
74-88-4	Iodomethane	07/29/2015	21:20	0.5	U	0.5	4.0	***2.0***
98-82-8	Isopropylbenzene	07/29/2015	21:20	0.18	U	0.18	1.00	***0.50***
179601-23-1	m & p-Xylene	07/29/2015	21:20	0.5	U	0.5	2.0	***1.0***
1634-04-4	Methyl tert-butyl ether	07/29/2015	21:20	0.29	U	0.29	1.00	***0.50***
75-09-2	Methylene chloride	07/29/2015	21:20	0.4	U	0.4	2.0	***1.0***
91-20-3	Naphthalene	07/29/2015	21:20	0.4	U	0.4	2.0	***1.0***
104-51-8	n-Butylbenzene	07/29/2015	21:20	0.23	U	0.23	1.00	***0.50***
103-65-1	n-Propylbenzene	07/29/2015	21:20	0.20	U	0.20	1.00	***0.50***
95-47-6	o-Xylene	07/29/2015	21:20	0.24	U	0.24	1.00	***0.50***
99-87-6	p-Isopropyltoluene	07/29/2015	21:20	0.23	U	0.23	1.00	***0.50***
135-98-8	sec-Butylbenzene	07/29/2015	21:20	0.21	U	0.21	1.00	***0.50***
100-42-5	Styrene	07/29/2015	21:20	0.20	U	0.20	1.00	***0.50***
98-06-6	tert-Butylbenzene	07/29/2015	21:20	0.20	U	0.20	1.00	***0.50***
127-18-4	Tetrachloroethene	07/29/2015	21:20	0.3	U	0.3	1.0	***0.5***
108-88-3	Toluene	07/29/2015	21:20	0.22	U	0.22	1.00	***0.50***
156-60-5	trans-1,2-Dichloroethene	07/29/2015	21:20	0.25	U	0.25	1.00	***0.50***
10061-02-6	trans-1,3-Dichloropropene	07/29/2015	21:20	0.19	U	0.19	1.00	***0.50***
79-01-6	Trichloroethene	07/29/2015	21:20	0.21	U	0.21	1.00	***0.50***
75-69-4	Trichlorofluoromethane	07/29/2015	21:20	0.20	U	0.20	1.0	***0.5***
108-05-4	Vinyl acetate	07/29/2015	21:20	3	U	3	10	***5***
75-01-4	Vinyl chloride	07/29/2015	21:20	0.18	U	0.18	1.00	***0.50***

CT LABORATORIES
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1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **METHOD BLANK**

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:		SDG No.:	112835
Sample wt/vol:	(g/mL)	CTL Sample ID:	615449
% Solids:		Date Received:	07/27/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8015C	Analytical Prep Batch #	0
Analytical Run #:	117222	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:		Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time	Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
GASCOMP	Gasoline Range Organics	07/30/2015 12:01	23	U	23	100	***50***

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1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **METHOD BLANK**

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:		SDG No.:	112835
Sample wt/vol:	(g/mL)	CTL Sample ID:	617310
% Solids:		Date Received:	07/27/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	117326	Dilution Factor:	100.00
Cleanup Date/Time/Type:	.	.	,
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			07/30/2015 / 15:00
ICAL Calibration #:	W080315.	Concentration Units:	mg/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
75-35-4	1,1-Dichloroethene	08/05/2015	09:06	0.00024	U	0.00024	0.00050	***0.00025***
107-06-2	1,2-Dichloroethane	08/05/2015	09:06	0.0003	U	0.0003	0.0010	***0.0005***
78-93-3	2-Butanone	08/05/2015	09:06	0.0024	U	0.0024	0.0050	***0.0025***
71-43-2	Benzene	08/05/2015	09:06	0.00019	U	0.00019	0.00050	***0.0002***
56-23-5	Carbon tetrachloride	08/05/2015	09:06	0.00023	U	0.00023	0.00050	***0.00025***
108-90-7	Chlorobenzene	08/05/2015	09:06	0.00024	U	0.00024	0.00050	***0.00025***
67-66-3	Chloroform	08/05/2015	09:06	0.00015	U	0.00015	0.00050	***0.00025***
127-18-4	Tetrachloroethene	08/05/2015	09:06	0.0003	U	0.0003	0.0010	***0.0005***
79-01-6	Trichloroethene	08/05/2015	09:06	0.00021	U	0.00021	0.00050	***0.00025***
75-01-4	Vinyl chloride	08/05/2015	09:06	0.00018	U	0.00018	0.00050	***0.00025***

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2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Analytical Method:	EPA 8015C	SDG:	112835
Analytical Run #:	117222	ICAL Calibration #:	

CTLab #	612629				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURROGATE: a,a,a TFT	100	90	76	166	

CTLab #	615447	Sample Type:		Normal Field Sample	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURROGATE: a,a,a TFT	100	112	80	120	

CTLab #	615448	Sample Type:		Lab Control Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURROGATE: a,a,a TFT	100	123	76	166	

CTLab #	615449	Sample Type:		Method Blank	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURROGATE: a,a,a TFT	100	89.3	76	166	

CTLab #	615469	Sample Type:		Normal Field Sample	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURROGATE: a,a,a TFT	100	109	80	120	

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2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Analytical Method:	EPA 8260C	SDG:	112835
Analytical Run #:	117175	ICAL Calibration #:	W072815.

CTLab #	612629				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	104	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	102	89	112	
Dibromofluoromethane	100	102	80	119	

CTLab #	612630				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	81	118	
Bromofluorobenzene	100	103	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	101	80	119	

CTLab #	614450	Sample Type:	Lab Control Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	98.0	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	102	89	112	
Dibromofluoromethane	100	101	80	119	

CTLab #	614451	Sample Type:	Normal Field Sample		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	98.0	70	120	
Bromofluorobenzene	100	100	70	120	
d8-Toluene	100	102	85	120	
Dibromofluoromethane	100	101	85	115	

CTLab #	614465	Sample Type:	Matrix Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	99.0	80	119	

CTLab #	614466	Sample Type:	Matrix Spike Duplicate		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	102	89	112	
Dibromofluoromethane	100	104	80	119	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Analytical Method:	EPA 8260C	SDG:	112835
Analytical Run #:	117175	ICAL Calibration #:	W072815.

CTLab #	614469	Sample Type:	Method Blank		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	103	70	120	
Bromofluorobenzene	100	101	75	120	
d8-Toluene	100	100	85	120	
Dibromofluoromethane	100	102	85	115	

CTLab #	616646	Sample Type:	Normal Field Sample		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99.0	50	150	
Bromofluorobenzene	100	100	50	150	
d8-Toluene	100	101	50	150	
Dibromofluoromethane	100	100	50	150	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Analytical Method:	EPA 8260C	SDG:	112835
Analytical Run #:	117326	ICAL Calibration #:	W080315.

CTLab #	612627				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	98	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	97	89	112	
Dibromofluoromethane	100	98	80	119	
CTLab #	**617261**	Sample Type:		Normal Field Sample	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	98.0	80	120	
Bromofluorobenzene	100	95.0	80	120	
d8-Toluene	100	97.0	80	120	
Dibromofluoromethane	100	100	80	120	
CTLab #	**617279**	Sample Type:		Lab Control Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	98.0	81	118	
Bromofluorobenzene	100	98.0	85	114	
d8-Toluene	100	98.0	89	112	
Dibromofluoromethane	100	100	80	119	
CTLab #	**617310**	Sample Type:		Method Blank	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	93.0	70	120	
Bromofluorobenzene	100	94.0	75	120	
d8-Toluene	100	96.0	85	120	
Dibromofluoromethane	100	98.0	85	115	
CTLab #	**617465**	Sample Type:		Matrix Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99.0	81	118	
Bromofluorobenzene	100	99.0	85	114	
d8-Toluene	100	97.0	89	112	
Dibromofluoromethane	100	103	80	119	
CTLab #	**617468**	Sample Type:		Matrix Spike Duplicate	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	96.0	81	118	
Bromofluorobenzene	100	98.0	85	114	
d8-Toluene	100	98.0	89	112	
Dibromofluoromethane	100	101	80	119	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Analytical Method:	EPA 8260C	SDG:	112835
Analytical Run #:	117326	ICAL Calibration #:	W080315.

CTLab #	617620	Sample Type:	Normal Field Sample		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	150	50	150	
Bromofluorobenzene	100	108	50	150	
d8-Toluene	100	101	50	150	
Dibromofluoromethane	100	114	50	150	

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3A

Sample Description

MYRTL-IDW-SO-01

WATER VOLATILE MATRIX SPIKE RECOVERY

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: TCLP SDG No.: 112835

Analytical Method: EPA 8260C Concentration Units: mg/L

Analytical Run #: 117326 Sample No.: 617465 Parent Sample No.: 612627

Analytical Prep Batch #: 0 Analytical Preparation Date/Time:

ICAL Calibration #: W080315.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,1-Dichloroethene	08/05/2015	12:35	71-131	0.983	BDL	1.00	98
1,2-Dichloroethane	08/05/2015	12:35	73-128	0.954	BDL	1.00	95
2-Butanone	08/05/2015	12:35	56-143	9.95	BDL	10.0	100
Benzene	08/05/2015	12:35	79-120	1.06	BDL	1.00	106
Carbon tetrachloride	08/05/2015	12:35	72-136	1.10	BDL	1.00	110
Chlorobenzene	08/05/2015	12:35	82-118	1.04	BDL	1.00	104
Chloroform	08/05/2015	12:35	79-124	1.02	BDL	1.00	102
Tetrachloroethene	08/05/2015	12:35	74-129	1.05	BDL	1.00	105
Trichloroethene	08/05/2015	12:35	79-123	1.03	BDL	1.00	103
Vinyl chloride	08/05/2015	12:35	58-137	0.955	BDL	1.00	96

Spike Recovery: 0 out of 10 outside QC limits

CT LABORATORIES
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3A

Sample Description

MYRTL-IDW-GW-01

WATER VOLATILE MATRIX SPIKE RECOVERY

Lab Name: CT Laboratories | Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: GROUND WATER | SDG No.: 112835

Analytical Method: EPA 8260C | Concentration Units: ug/L

Analytical Run #: 117175 | Sample No.: 614465 | Parent Sample No.: 612629

Analytical Prep Batch #: 0 | Analytical Preparation Date/Time:

ICAL Calibration #: W072815.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,1,1,2-Tetrachloroethane	07/30/2015	05:29	78-124	9.79	BDL	10.0	98
1,1,1-Trichloroethane	07/30/2015	05:29	74-131	10.2	BDL	10.0	102
1,1,2,2-Tetrachloroethane	07/30/2015	05:29	71-121	9.63	BDL	10.0	96
1,1,2-Trichloroethane	07/30/2015	05:29	80-119	9.66	BDL	10.0	97
1,1-Dichloroethane	07/30/2015	05:29	77-125	10.4	BDL	10.0	104
1,1-Dichloroethene	07/30/2015	05:29	71-131	10.6	BDL	10.0	106
1,1-Dichloropropene	07/30/2015	05:29	79-125	9.91	BDL	10.0	99
1,2,3-Trichlorobenzene	07/30/2015	05:29	69-129	8.40	BDL	10.0	84
1,2,3-Trichloropropane	07/30/2015	05:29	73-122	9.14	BDL	10.0	91
1,2,4-Trichlorobenzene	07/30/2015	05:29	69-130	8.41	BDL	10.0	84
1,2,4-Trimethylbenzene	07/30/2015	05:29	76-124	10.0	BDL	10.0	100
1,2-Dibromo-3-chloropropane	07/30/2015	05:29	62-128	9.81	BDL	10.0	98
1,2-Dibromoethane	07/30/2015	05:29	77-121	9.08	BDL	10.0	91
1,2-Dichlorobenzene	07/30/2015	05:29	80-119	9.30	BDL	10.0	93
1,2-Dichloroethane	07/30/2015	05:29	73-128	9.65	BDL	10.0	96
1,2-Dichloropropane	07/30/2015	05:29	78-122	9.81	BDL	10.0	98
1,3,5-Trimethylbenzene	07/30/2015	05:29	75-124	9.78	BDL	10.0	98
1,3-Dichlorobenzene	07/30/2015	05:29	80-119	9.44	BDL	10.0	94
1,3-Dichloropropane	07/30/2015	05:29	80-119	9.58	BDL	10.0	96
1,4-Dichlorobenzene	07/30/2015	05:29	79-118	9.44	BDL	10.0	94
2,2-Dichloropropane	07/30/2015	05:29	60-139	9.57	BDL	10.0	96
2-Butanone	07/30/2015	05:29	56-143	96.7	BDL	100	97
2-Chlorotoluene	07/30/2015	05:29	79-122	9.65	BDL	10.0	96
2-Hexanone	07/30/2015	05:29	57-139	107	BDL	100	107
4-Chlorotoluene	07/30/2015	05:29	78-122	10.0	BDL	10.0	100
4-Methyl-2-pentanone	07/30/2015	05:29	67-130	110	BDL	100	110
Acetone	07/30/2015	05:29	39-160	142	32	100	110
Benzene	07/30/2015	05:29	79-120	10.2	BDL	10.0	102
Bromobenzene	07/30/2015	05:29	80-120	9.50	BDL	10.0	95
Bromochloromethane	07/30/2015	05:29	78-123	9.52	BDL	10.0	95
Bromodichloromethane	07/30/2015	05:29	79-125	9.43	BDL	10.0	94

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Sample Description

MYRTL-IDW-GW-01

WATER VOLATILE MATRIX SPIKE RECOVERY

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: GROUND WATER SDG No.: 112835

Analytical Method: EPA 8260C Concentration Units: ug/L

Analytical Run #: 117175 Sample No.: 614465 Parent Sample No.: 612629

Analytical Prep Batch #: 0 Analytical Preparation Date/Time:

ICAL Calibration #: W072815.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Bromoform	07/30/2015	05:29	66-130	8.70	BDL	10.0	87
Bromomethane	07/30/2015	05:29	53-141	9.83	BDL	10.0	98
Carbon disulfide	07/30/2015	05:29	64-133	23.4	1.5	20.0	110
Carbon tetrachloride	07/30/2015	05:29	72-136	10.9	BDL	10.0	109
Chlorobenzene	07/30/2015	05:29	82-118	9.46	BDL	10.0	95
Chloroethane	07/30/2015	05:29	60-138	10.4	BDL	10.0	104
Chloroform	07/30/2015	05:29	79-124	10.2	0.43	10.0	98
Chloromethane	07/30/2015	05:29	50-139	11.0	BDL	10.0	110
cis-1,2-Dichloroethene	07/30/2015	05:29	78-123	9.57	BDL	10.0	96
cis-1,3-Dichloropropene	07/30/2015	05:29	75-124	9.12	BDL	10.0	91
Dibromochloromethane	07/30/2015	05:29	74-126	9.44	BDL	10.0	94
Dibromomethane	07/30/2015	05:29	79-123	9.10	BDL	10.0	91
Dichlorodifluoromethane	07/30/2015	05:29	32-152	10.9	BDL	10.0	109
Ethylbenzene	07/30/2015	05:29	79-121	10.0	BDL	10.0	100
Freon 113	07/30/2015	05:29	70-136	22.4	BDL	20.0	112
Hexachlorobutadiene	07/30/2015	05:29	66-134	7.84	BDL	10.0	78
Iodomethane	07/30/2015	05:29	69-131	18.5	BDL	20.0	92
Isopropylbenzene	07/30/2015	05:29	72-131	10.0	BDL	10.0	100
m & p-Xylene	07/30/2015	05:29	80-121	19.5	BDL	20.0	98
Methyl tert-butyl ether	07/30/2015	05:29	71-124	9.22	BDL	10.0	92
Methylene chloride	07/30/2015	05:29	74-124	9.40	BDL	10.0	94
Naphthalene	07/30/2015	05:29	61-128	9.31	BDL	10.0	93
n-Butylbenzene	07/30/2015	05:29	75-128	9.82	BDL	10.0	98
n-Propylbenzene	07/30/2015	05:29	76-126	10.4	BDL	10.0	104
o-Xylene	07/30/2015	05:29	78-122	9.54	BDL	10.0	95
p-Isopropyltoluene	07/30/2015	05:29	77-127	10.2	BDL	10.0	102
sec-Butylbenzene	07/30/2015	05:29	77-126	10.3	BDL	10.0	103
Styrene	07/30/2015	05:29	78-123	8.58	BDL	10.0	86
tert-Butylbenzene	07/30/2015	05:29	78-124	10.1	BDL	10.0	101
Tetrachloroethene	07/30/2015	05:29	74-129	9.87	BDL	10.0	99
Toluene	07/30/2015	05:29	80-121	10.2	BDL	10.0	102

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Sample Description

MYRTL-IDW-GW-01

WATER VOLATILE MATRIX SPIKE RECOVERY

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: GROUND WATER SDG No.: 112835

Analytical Method: EPA 8260C Concentration Units: ug/L

Analytical Run #: 117175 Sample No.: 614465 Parent Sample No.: 612629

Analytical Prep Batch #: 0 Analytical Preparation Date/Time:

ICAL Calibration #: W072815.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
trans-1,2-Dichloroethene	07/30/2015	05:29	75-124	10.0	BDL	10.0	100
trans-1,3-Dichloropropene	07/30/2015	05:29	73-127	8.56	BDL	10.0	86
Trichloroethene	07/30/2015	05:29	79-123	9.67	BDL	10.0	97
Trichlorofluoromethane	07/30/2015	05:29	65-141	11.0	BDL	10.0	110
Vinyl acetate	07/30/2015	05:29	54-146	111	BDL	100	111
Vinyl chloride	07/30/2015	05:29	58-137	10.6	BDL	10.0	106

Spike Recovery: 0 out of 68 outside QC limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

MYRTL-IDW-SO-01

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: TCLP SDG No.: 112835

Analytical Method: EPA 8260C Concentration Units: mg/L

Analytical Run #: 117326 Sample No.: 617468 Parent Sample No.: 617465

Analytical Prep Batch #: 0 Analytical Preparation Date/Time:

ICAL Calibration #: W080315.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
1,1-Dichloroethene	08/05/2015	13:06	0.904	1.00	90	8	71-131	20
1,2-Dichloroethane	08/05/2015	13:06	0.983	1.00	98	3	73-128	20
2-Butanone	08/05/2015	13:06	10.2	10.0	102	2	56-143	20
Benzene	08/05/2015	13:06	1.03	1.00	103	3	79-120	20
Carbon tetrachloride	08/05/2015	13:06	1.07	1.00	107	3	72-136	20
Chlorobenzene	08/05/2015	13:06	1.03	1.00	103	1	82-118	20
Chloroform	08/05/2015	13:06	1.01	1.00	101	1	79-124	20
Tetrachloroethene	08/05/2015	13:06	1.05	1.00	105	0	74-129	20
Trichloroethene	08/05/2015	13:06	1.01	1.00	101	1	79-123	20
Vinyl chloride	08/05/2015	13:06	0.989	1.00	99	3	58-137	20

RPD or Spike Recovery: 0 out of 10 outside QC limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

MYRTL-IDW-GW-01

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: GROUND WATER SDG No.: 112835

Analytical Method: EPA 8260C Concentration Units: ug/L

Analytical Run #: 117175 Sample No.: 614466 Parent Sample No.: 614465

Analytical Prep Batch #: 0 Analytical Preparation Date/Time:

ICAL Calibration #: W072815.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
1,1,1,2-Tetrachloroethane	07/30/2015	05:58	9.61	10.0	96	2	78-124	20
1,1,1-Trichloroethane	07/30/2015	05:58	10.1	10.0	101	0	74-131	20
1,1,2,2-Tetrachloroethane	07/30/2015	05:58	9.66	10.0	97	0	71-121	20
1,1,2-Trichloroethane	07/30/2015	05:58	10.1	10.0	101	4	80-119	20
1,1-Dichloroethane	07/30/2015	05:58	10.3	10.0	103	0	77-125	20
1,1-Dichloroethene	07/30/2015	05:58	10.4	10.0	104	2	71-131	20
1,1-Dichloropropene	07/30/2015	05:58	9.91	10.0	99	0	79-125	20
1,2,3-Trichlorobenzene	07/30/2015	05:58	8.63	10.0	86	3	69-129	20
1,2,3-Trichloropropane	07/30/2015	05:58	9.04	10.0	90	1	73-122	20
1,2,4-Trichlorobenzene	07/30/2015	05:58	8.58	10.0	86	2	69-130	20
1,2,4-Trimethylbenzene	07/30/2015	05:58	9.85	10.0	98	2	76-124	20
1,2-Dibromo-3-chloropropane	07/30/2015	05:58	9.77	10.0	98	0	62-128	20
1,2-Dibromoethane	07/30/2015	05:58	9.36	10.0	94	3	77-121	20
1,2-Dichlorobenzene	07/30/2015	05:58	9.53	10.0	95	2	80-119	20
1,2-Dichloroethane	07/30/2015	05:58	9.79	10.0	98	1	73-128	20
1,2-Dichloropropane	07/30/2015	05:58	9.98	10.0	100	2	78-122	20
1,3,5-Trimethylbenzene	07/30/2015	05:58	9.75	10.0	98	0	75-124	20
1,3-Dichlorobenzene	07/30/2015	05:58	9.51	10.0	95	1	80-119	20
1,3-Dichloropropane	07/30/2015	05:58	9.73	10.0	97	2	80-119	20
1,4-Dichlorobenzene	07/30/2015	05:58	9.35	10.0	94	1	79-118	20
2,2-Dichloropropane	07/30/2015	05:58	9.40	10.0	94	2	60-139	20
2-Butanone	07/30/2015	05:58	98.3	100	98	2	56-143	20
2-Chlorotoluene	07/30/2015	05:58	9.57	10.0	96	1	79-122	20
2-Hexanone	07/30/2015	05:58	109	100	109	1	57-139	20
4-Chlorotoluene	07/30/2015	05:58	9.84	10.0	98	2	78-122	20
4-Methyl-2-pentanone	07/30/2015	05:58	112	100	112	2	67-130	20
Acetone	07/30/2015	05:58	141	100	109	1	39-160	20
Benzene	07/30/2015	05:58	10.4	10.0	104	2	79-120	20
Bromobenzene	07/30/2015	05:58	9.09	10.0	91	4	80-120	20
Bromochloromethane	07/30/2015	05:58	9.37	10.0	94	2	78-123	20
Bromodichloromethane	07/30/2015	05:58	9.41	10.0	94	0	79-125	20

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

MYRTL-IDW-GW-01

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: GROUND WATER SDG No.: 112835

Analytical Method: EPA 8260C Concentration Units: ug/L

Analytical Run #: 117175 Sample No.: 614466 Parent Sample No.: 614465

Analytical Prep Batch #: 0 Analytical Preparation Date/Time:

ICAL Calibration #: W072815.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
Bromoform	07/30/2015	05:58	8.64	10.0	86	1	66-130	20
Bromomethane	07/30/2015	05:58	9.92	10.0	99	1	53-141	20
Carbon disulfide	07/30/2015	05:58	23.7	20.0	111	1	64-133	20
Carbon tetrachloride	07/30/2015	05:58	11.0	10.0	110	1	72-136	20
Chlorobenzene	07/30/2015	05:58	9.64	10.0	96	2	82-118	20
Chloroethane	07/30/2015	05:58	10.4	10.0	104	1	60-138	20
Chloroform	07/30/2015	05:58	10.3	10.0	99	2	79-124	20
Chloromethane	07/30/2015	05:58	11.2	10.0	112	2	50-139	20
cis-1,2-Dichloroethene	07/30/2015	05:58	9.85	10.0	98	3	78-123	20
cis-1,3-Dichloropropene	07/30/2015	05:58	9.21	10.0	92	1	75-124	20
Dibromochloromethane	07/30/2015	05:58	9.60	10.0	96	2	74-126	20
Dibromomethane	07/30/2015	05:58	9.26	10.0	93	2	79-123	20
Dichlorodifluoromethane	07/30/2015	05:58	11.2	10.0	112	3	32-152	20
Ethylbenzene	07/30/2015	05:58	9.99	10.0	100	1	79-121	20
Freon 113	07/30/2015	05:58	22.5	20.0	112	0	70-136	20
Hexachlorobutadiene	07/30/2015	05:58	8.11	10.0	81	3	66-134	20
Iodomethane	07/30/2015	05:58	20.1	20.0	100	9	69-131	20
Isopropylbenzene	07/30/2015	05:58	9.96	10.0	100	1	72-131	20
m & p-Xylene	07/30/2015	05:58	19.7	20.0	98	1	80-121	20
Methyl tert-butyl ether	07/30/2015	05:58	9.67	10.0	97	5	71-124	20
Methylene chloride	07/30/2015	05:58	9.92	10.0	99	5	74-124	20
Naphthalene	07/30/2015	05:58	9.47	10.0	95	2	61-128	20
n-Butylbenzene	07/30/2015	05:58	9.76	10.0	98	1	75-128	20
n-Propylbenzene	07/30/2015	05:58	10.2	10.0	102	2	76-126	20
o-Xylene	07/30/2015	05:58	9.56	10.0	96	0	78-122	20
p-Isopropyltoluene	07/30/2015	05:58	10.0	10.0	100	2	77-127	20
sec-Butylbenzene	07/30/2015	05:58	10.3	10.0	103	0	77-126	20
Styrene	07/30/2015	05:58	8.40	10.0	84	2	78-123	20
tert-Butylbenzene	07/30/2015	05:58	9.75	10.0	98	4	78-124	20
Tetrachloroethene	07/30/2015	05:58	10.0	10.0	100	2	74-129	20
Toluene	07/30/2015	05:58	10.1	10.0	101	1	80-121	20

CT LABORATORIES
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3A

Sample Description

MYRTL-IDW-GW-01

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: GROUND WATER SDG No.: 112835

Analytical Method: EPA 8260C Concentration Units: ug/L

Analytical Run #: 117175 Sample No.: 614466 Parent Sample No.: 614465

Analytical Prep Batch #: 0 Analytical Preparation Date/Time:

ICAL Calibration #: W072815.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
trans-1,2-Dichloroethene	07/30/2015	05:58	10.1	10.0	101	0	75-124	20
trans-1,3-Dichloropropene	07/30/2015	05:58	9.09	10.0	91	6	73-127	20
Trichloroethene	07/30/2015	05:58	9.79	10.0	98	1	79-123	20
Trichlorofluoromethane	07/30/2015	05:58	11.0	10.0	110	1	65-141	20
Vinyl acetate	07/30/2015	05:58	116	100	116	4	54-146	20
Vinyl chloride	07/30/2015	05:58	10.6	10.0	106	0	58-137	20

RPD or Spike Recovery: 0 out of 68 outside QC limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description: LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: CT Laboratories
Contract: AMEC FOSTER WHEELER-MYRTLE BEACH
Sample No.: 614450
SDG No.: 112835
Analytical Method: EPA 8260C
Concentration Units: ug/L

Sample No.: 614450
Parent Sample No.: 0
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 117175
ICAL Calibration #: W072815.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,1,1,2-Tetrachloroethane	07/29/2015	20:23	78-124	9.63		10.0	96
1,1,1-Trichloroethane	07/29/2015	20:23	74-131	9.85		10.0	98
1,1,2,2-Tetrachloroethane	07/29/2015	20:23	71-121	9.47		10.0	95
1,1,2-Trichloroethane	07/29/2015	20:23	80-119	9.49		10.0	95
1,1-Dichloroethane	07/29/2015	20:23	77-125	9.78		10.0	98
1,1-Dichloroethene	07/29/2015	20:23	71-131	9.73		10.0	97
1,1-Dichloropropene	07/29/2015	20:23	79-125	9.29		10.0	93
1,2,3-Trichlorobenzene	07/29/2015	20:23	69-129	8.97		10.0	90
1,2,3-Trichloropropane	07/29/2015	20:23	73-122	9.76		10.0	98
1,2,4-Trichlorobenzene	07/29/2015	20:23	69-130	8.85		10.0	88
1,2,4-Trimethylbenzene	07/29/2015	20:23	76-124	9.62		10.0	96
1,2-Dibromo-3-chloropropane	07/29/2015	20:23	62-128	10.2		10.0	102
1,2-Dibromoethane	07/29/2015	20:23	77-121	9.12		10.0	91
1,2-Dichlorobenzene	07/29/2015	20:23	80-119	9.38		10.0	94
1,2-Dichloroethane	07/29/2015	20:23	73-128	9.56		10.0	96
1,2-Dichloropropane	07/29/2015	20:23	78-122	9.63		10.0	96
1,3,5-Trimethylbenzene	07/29/2015	20:23	75-124	9.69		10.0	97
1,3-Dichlorobenzene	07/29/2015	20:23	80-119	9.44		10.0	94
1,3-Dichloropropane	07/29/2015	20:23	80-119	9.38		10.0	94
1,4-Dichlorobenzene	07/29/2015	20:23	79-118	9.21		10.0	92
2,2-Dichloropropane	07/29/2015	20:23	60-139	9.68		10.0	97
2-Butanone	07/29/2015	20:23	56-143	103		100	103
2-Chlorotoluene	07/29/2015	20:23	79-122	9.41		10.0	94
2-Hexanone	07/29/2015	20:23	57-139	112		100	112
4-Chlorotoluene	07/29/2015	20:23	78-122	9.64		10.0	96
4-Methyl-2-pentanone	07/29/2015	20:23	67-130	113		100	113
Acetone	07/29/2015	20:23	39-160	119		100	119
Benzene	07/29/2015	20:23	79-120	9.76		10.0	98

CT LABORATORIES
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3A

Sample Description

LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Sample No.: 614450

SDG No.: 112835

Analytical Method: EPA 8260C

Concentration Units: ug/L

Sample No.: 614450

Parent Sample No.: 0

Analytical Prep Batch #: 0

Analytical Preparation Date/Time:

Analytical Run #: 117175

ICAL Calibration #: W072815.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Bromobenzene	07/29/2015	20:23	80-120	9.05		10.0	90
Bromochloromethane	07/29/2015	20:23	78-123	9.53		10.0	95
Bromodichloromethane	07/29/2015	20:23	79-125	9.32		10.0	93
Bromoform	07/29/2015	20:23	66-130	9.19		10.0	92
Bromomethane	07/29/2015	20:23	53-141	9.45		10.0	94
Carbon disulfide	07/29/2015	20:23	64-133	20.9		20.0	104
Carbon tetrachloride	07/29/2015	20:23	72-136	10.4		10.0	104
Chlorobenzene	07/29/2015	20:23	82-118	9.15		10.0	92
Chloroethane	07/29/2015	20:23	60-138	9.48		10.0	95
Chloroform	07/29/2015	20:23	79-124	9.69		10.0	97
Chloromethane	07/29/2015	20:23	50-139	10.4		10.0	104
cis-1,2-Dichloroethene	07/29/2015	20:23	78-123	9.36		10.0	94
cis-1,3-Dichloropropene	07/29/2015	20:23	75-124	9.63		10.0	96
Dibromochloromethane	07/29/2015	20:23	74-126	9.90		10.0	99
Dibromomethane	07/29/2015	20:23	79-123	9.04		10.0	90
Dichlorodifluoromethane	07/29/2015	20:23	32-152	10.1		10.0	101
Ethylbenzene	07/29/2015	20:23	79-121	9.80		10.0	98
Freon 113	07/29/2015	20:23	70-136	20.5		20.0	102
Hexachlorobutadiene	07/29/2015	20:23	66-134	9.26		10.0	93
Iodomethane	07/29/2015	20:23	69-131	19.9		20.0	100
Isopropylbenzene	07/29/2015	20:23	72-131	9.67		10.0	97
m & p-Xylene	07/29/2015	20:23	80-121	19.1		20.0	96
Methyl tert-butyl ether	07/29/2015	20:23	71-124	9.46		10.0	95
Methylene chloride	07/29/2015	20:23	74-124	10.2		10.0	102
Naphthalene	07/29/2015	20:23	61-128	9.44		10.0	94
n-Butylbenzene	07/29/2015	20:23	75-128	9.77		10.0	98
n-Propylbenzene	07/29/2015	20:23	76-126	10.1		10.0	101
o-Xylene	07/29/2015	20:23	78-122	9.18		10.0	92

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description: LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: CT Laboratories
Contract: AMEC FOSTER WHEELER-MYRTLE BEACH
Sample No.: 614450
SDG No.: 112835
Analytical Method: EPA 8260C
Concentration Units: ug/L

Sample No.: 614450
Parent Sample No.: 0
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 117175
ICAL Calibration #: W072815.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
p-Isopropyltoluene	07/29/2015	20:23	77-127	9.90		10.0	99
sec-Butylbenzene	07/29/2015	20:23	77-126	10.1		10.0	101
Styrene	07/29/2015	20:23	78-123	9.31		10.0	93
tert-Butylbenzene	07/29/2015	20:23	78-124	9.76		10.0	98
Tetrachloroethene	07/29/2015	20:23	74-129	9.44		10.0	94
Toluene	07/29/2015	20:23	80-121	9.67		10.0	97
trans-1,2-Dichloroethene	07/29/2015	20:23	75-124	9.51		10.0	95
trans-1,3-Dichloropropene	07/29/2015	20:23	73-127	9.13		10.0	91
Trichloroethene	07/29/2015	20:23	79-123	9.55		10.0	96
Trichlorofluoromethane	07/29/2015	20:23	65-141	10.3		10.0	103
Vinyl acetate	07/29/2015	20:23	54-146	92.1		100	92
Vinyl chloride	07/29/2015	20:23	58-137	9.53		10.0	95

Spike Recovery: 0 out of 68 outside limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Sample No.: 615448

SDG No.: 112835

Analytical Method: EPA 8015C

Concentration Units: ug/L

Sample No.: 615448

Parent Sample No.: 0

Analytical Prep Batch #: 0

Analytical Preparation Date/Time:

Analytical Run #: 117222

ICAL Calibration #: 8015p1w010815

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Gasoline Range Organics	07/30/2015	10:45	78-122	391		400	98

Spike Recovery: 0 out of 1 outside limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Sample No.: 617279

SDG No.: 112835

Analytical Method: EPA 8260C

Concentration Units: mg/L

Sample No.: 617279

Parent Sample No.: 0

Analytical Prep Batch #: 0

Analytical Preparation Date/Time:

Analytical Run #: 117326

ICAL Calibration #: W080315.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,1-Dichloroethene	08/05/2015	08:36	71-131	0.837		1.00	84
1,2-Dichloroethane	08/05/2015	08:36	73-128	0.940		1.00	94
2-Butanone	08/05/2015	08:36	56-143	9.39		10.0	94
Benzene	08/05/2015	08:36	79-120	0.942		1.00	94
Carbon tetrachloride	08/05/2015	08:36	72-136	0.908		1.00	91
Chlorobenzene	08/05/2015	08:36	82-118	0.980		1.00	98
Chloroform	08/05/2015	08:36	79-124	0.950		1.00	95
Tetrachloroethene	08/05/2015	08:36	74-129	0.945		1.00	94
Trichloroethene	08/05/2015	08:36	79-123	0.944		1.00	94
Vinyl chloride	08/05/2015	08:36	58-137	0.964		1.00	96

Spike Recovery: 0 out of 10 outside limits

CT LABORATORIES
delivering more than data from your environmental analyses

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Sample ID:	613696	SDG No.:	112835
Matrix:	SOLID	Date Extracted:	07/29/2015
Date Analyzed:	07/29/2015	Time Analyzed:	12:09
Analytical Method:	EPA 8015C	Extraction Method:	SW5035
Analytical Run #:	117178	Extraction Batch #:	53502
		ICAL Calibration #:	8015p1s011215

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED
1	CCV	614575	07/29/2015 10:16
2	LCSS	613697	07/29/2015 10:53
3	MBS	613696	07/29/2015 12:09
4	MYRTL-IDW-SO-01	612628	07/29/2015 13:25
5	RCHRD-IDWMSS	613698	07/29/2015 14:02
6	RCHRD-IDWMSDS	613699	07/29/2015 14:40
7	MYRTL-IDW-SO-01MSS	613808	07/29/2015 15:18
8	MYRTL-IDW-SO-01MSDS	613809	07/29/2015 15:56
9	CCV	614576	07/29/2015 17:11

CT LABORATORIES
delivering more than data from your environmental analyses

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Sample ID:	614469	SDG No.:	112835
Matrix:	LIQUID	Date Extracted:	
Date Analyzed:	07/29/2015	Time Analyzed:	21:20
Analytical Method:	EPA 8260C	Extraction Method:	NONE
Analytical Run #:	117175	Extraction Batch #:	0
		ICAL Calibration #:	W072815.

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED
1	BFB	614449	07/29/2015 20:09
2	LCSW	614450	07/29/2015 20:23
3	CCV	614451	07/29/2015 20:23
4	MBW	614469	07/29/2015 21:20
5	MYRTL-IDW-GW-01TB	612630	07/30/2015 04:31
6	MYRTL-IDW-GW-01	612629	07/30/2015 05:00
7	MYRTL-IDW-GW-01MSW	614465	07/30/2015 05:29
8	MYRTL-IDW-GW-01MSDW	614466	07/30/2015 05:58
9	CCVF	616646	07/30/2015 06:56

CT LABORATORIES
delivering more than data from your environmental analyses

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Sample ID:	615449	SDG No.:	112835
Matrix:	LIQUID	Date Extracted:	
Date Analyzed:	07/30/2015	Time Analyzed:	12:01
Analytical Method:	EPA 8015C	Extraction Method:	NONE
Analytical Run #:	117222	Extraction Batch #:	0
		ICAL Calibration #:	

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED
1	CCV	615447	07/30/2015 10:08
2	LCSW	615448	07/30/2015 10:45
3	MBW	615449	07/30/2015 12:01
4	MYRTL-IDW-GW-01	612629	07/30/2015 12:38
5	CCV	615469	07/30/2015 15:09

CT LABORATORIES
delivering more than data from your environmental analyses

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Sample ID:	617310	SDG No.:	112835
Matrix:	LIQUID	Date Extracted:	
Date Analyzed:	08/05/2015	Time Analyzed:	09:06
Analytical Method:	EPA 8260C	Extraction Method:	NONE
Analytical Run #:	117326	Extraction Batch #:	0
		ICAL Calibration #:	W080315.

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED
1	BFB	617912	08/05/2015 07:18
2	CCV	617261	08/05/2015 08:06
3	LCSW	617279	08/05/2015 08:36
4	MBW	617310	08/05/2015 09:06
5	MYRTL-IDW-SO-01	612627	08/05/2015 11:14
6	MYRTL-IDW-SO-01MSW	617465	08/05/2015 12:35
7	MYRTL-IDW-SO-01MSDW	617468	08/05/2015 13:06
8	CCVF	617620	08/05/2015 14:03

Data File : C:\Instarch\Data\JUL2815\BFB1.D
Acq On : 28 Jul 2015 16:13
Sample : BFB INJ
Misc : 50 ng Injection
Integration File: VOC.P

Vial: 1
Operator: RLD-AGK
Inst : VMS4
Multiplr: 1.00

Method : C:\INSTARCH\METHODS\W072815.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.798 to 4.816 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.4	9714	PASS
75	95	30	60	48.2	21935	PASS
95	95	100	100	100.0	45496	PASS
96	95	5	9	8.3	3797	PASS
173	174	0.00	2	0.7	304	PASS
174	95	50	100	99.5	45256	PASS
175	174	5	9	6.6	2978	PASS
176	174	95	101	95.0	42998	PASS
177	176	5	9	7.0	3004	PASS

72815.M Mon Aug 03 11:04:46 2015

pl_ilog
Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W072815.M
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JUL2815\BFB1.D
Injection Date : 28 Jul 2015 Log Time Period (hrs) : ALL
Injection Time : 16:13 Total files within period : 17
Sample Directory : C:\INSTARCH\DATA\JUL2815\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
CALW1	1.00	1.00	1.00	CALIB. PT. 1 0.50/5.00 ug/L, 5.0	28 Jul 2015	17:54
CALW2	1.00	1.00	1.00	CALIB. PT. 2 2.00/20.0 ug/L, 5.0	28 Jul 2015	18:23
CALW3	1.00	1.00	1.00	CALIB. PT. 3 5.00/50.0 ug/L, 5.0	28 Jul 2015	18:52
CALW4	1.00	1.00	1.00	CALIB. PT. 4 10.0/100 ug/L, 5.0 m	28 Jul 2015	19:20
CALW5	1.00	1.00	1.00	CALIB. PT. 5 20.0/200 ug/L, 5.0 m	28 Jul 2015	19:49
CALW6	1.00	1.00	1.00	CALIB. PT. 6 30.0/300 ug/L, 5.0 m	28 Jul 2015	20:18
CALW7	1.00	1.00	1.00	CALIB. PT. 7 40.0/400 ug/L, 5.0 m	28 Jul 2015	20:46
CALW8	1.00	1.00	1.00	CALIB. PT. 8 80.0/800 ug/L, 5.0 m	28 Jul 2015	21:15
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF 10.0/100 ug/L, 5.0 m	28 Jul 2015	22:12
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF 30.0/300 ug/L, 5.0 m	28 Jul 2015	22:41
ICB1	1.00	1.00	1.00	INITIAL CALIB. BLANK pH<2, 5.0 ml DI H2O	29 Jul 2015	00:07

Data File : C:\Instarch\Data\JUL2915B\BFB1.D Vial: 1
Acq On : 29 Jul 2015 20:09 Operator: RLD-AGK
Sample : 117174,BFB, Inst : VMS4
Misc : 50 ng Injection Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W072815.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.804 to 4.816 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	23.3	23253	PASS
75	95	30	60	44.8	44841	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	6.6	6635	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	89.6	89594	PASS
175	174	5	9	8.2	7306	PASS
176	174	95	101	96.3	86263	PASS
177	176	5	9	6.3	5403	PASS

72815.M Mon Aug 03 09:51:20 2015

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W072815.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JUL2915B\BFB1.D
Injection Date : 29 Jul 2015 Log Time Period (hrs) : ALL
Injection Time : 20:09 Total files within period : 23
Sample Directory : C:\INSTARCH\DATA\JUL2915B\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
CCV-LCS1	1.00	1.00	1.00	117174,LCSW, 10.0/100 ug/L, 5.0 ml Pur	29 Jul 2015	20:23
MB1	1.00	1.00	1.00	117174,MBW, pH<2, 5.0 ml DI H2O Purge	29 Jul 2015	21:20
612630	1.00	1.00	1.00	116175,612630, pH<2, 5.0 ml Purged + IS/	30 Jul 2015	04:31
612629	1.00	1.00	1.00	116175,612629, pH<2, 5.0 ml Purged + IS/	30 Jul 2015	05:00
612629MS	1.00	1.00	1.00	117175,MSW612629, 10.0/100 ug/L, 5.0 ml Pur	30 Jul 2015	05:29
612629SD	1.00	1.00	1.00	117175,MSDW612629, 10.0/100 ug/L, 5.0 ml Pur	30 Jul 2015	05:58
CCVF1	1.00	1.00	1.00	117174,CCVF, 10.0/100 ug/L, 5.0 ml Pur	30 Jul 2015	06:56

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : CT Laboratories, LLC Contract :
Project : Site : Location : Group :
File ID (Standard): CALW4.D Date Analyzed : 28 Jul 2015
Instrument ID : VMS4 Time Analyzed : 19:20
GC Column : DB-624 UI ID : VMS4(mm) Heated Purge (Y:N) : N

	IS1		IS2		IS3	
	Area #	RT #	Area #	RT #	Area #	RT #
12 HOUR STD	1419453	7.80	1189894	11.74	700570	15.05
UPPER LIMIT	2838906	8.30	2379788	12.24	1401140	15.55
LOWER LIMIT	709727	7.30	594947	11.24	350285	14.55
File ID Sample						
612629 116175,61	1218557	7.81	1042010	11.74	592397	15.05
612629MS 117175,MS	1226112	7.80	1038905	11.74	604719	15.05
612629SD 117175,MS	1228727	7.81	1053519	11.74	620798	15.05
612630 116175,61	1197702	7.80	1018177	11.74	576097	15.05
CCV-LCS1 117174,LC	1307928	7.80	1109965	11.74	655442	15.05
CCVF1 117174,CC	1239083	7.80	1048772	11.74	614532	15.05
MB1 117174,MB	1231256	7.81	1046058	11.74	602214	15.05

IS1 = FLUOROBENZENE**ISTD**
IS2 = d5-CHLOROBENZENE**ISTD**
IS3 = d4-1,4-DICHLOROBENZENE**IS

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = 0.5 minutes of internal standard RT
RT LOWER LIMIT = -0.5 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk
* Values outside of contract required QC limits

Data File : C:\INSTARCH\Data\AUG0315\BFB1.D Vial: 1
Acq On : 3 Aug 2015 14:44 Operator: AGK-RLD
Sample : BFB INJECTION Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W080315.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.201 to 4.201 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.5	21168	PASS
75	95	30	60	47.5	49024	PASS
95	95	100	100	100.0	103104	PASS
96	95	5	9	7.1	7326	PASS
173	174	0.00	2	1.0	937	PASS
174	95	50	100	91.5	94296	PASS
175	174	5	9	6.9	6552	PASS
176	174	95	101	100.8	95032	PASS
177	176	5	9	6.4	6110	PASS

80315.M Wed Aug 12 07:10:49 2015

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W080315.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\AUG0315\BFB1.D
Injection Date : 3 Aug 2015 Log Time Period (hrs) : ALL
Injection Time : 14:44 Total files within period : 16
Sample Directory : C:\INSTARCH\DATA\AUG0315\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
CALW1	1.00	1.00	1.00	INITIAL CALIB. PT1 0.50/5.00 ug/L, 5.0 mL Pu	3 Aug 2015	16:02
CALW2	1.00	1.00	1.00	INITIAL CALIB. PT2 2.00/20.0 ug/L, 5.0 mL Pu	3 Aug 2015	16:33
CALW3	1.00	1.00	1.00	INITIAL CALIB. PT3 5.0/50.0 ug/L, 5.0 mL Pur	3 Aug 2015	17:02
CALW4	1.00	1.00	1.00	INITIAL CALIB. PT4 10.0/100.0 ug/L, 5.0 mL P	3 Aug 2015	17:33
CALW5	1.00	1.00	1.00	INITIAL CALIB. PT5 20.0/200.0 ug/L, 5.0 mL P	3 Aug 2015	18:02
CALW6	1.00	1.00	1.00	INITIAL CALIB. PT6 30.0/300.0 ug/L, 5.0 mL P	3 Aug 2015	18:33
CALW7	1.00	1.00	1.00	INITIAL CALIB. PT7 40.0/400.0 ug/L, 5.0 mL P	3 Aug 2015	19:03
CALW8	1.00	1.00	1.00	INITIAL CALIB. PT8 80.0/800.0 ug/L, 5.0 mL P	3 Aug 2015	19:33
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF. 10.0/100.0 ug/L, 5.0 mL P	3 Aug 2015	20:34
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF. 30.0/300.0 ug/L, 5.0 mL P	3 Aug 2015	21:03
ICB1	1.00	1.00	1.00	INITIAL CALIB. BLANK pH<2, 5.0 mL DI H20 Purge	3 Aug 2015	22:33

Data File : C:\INSTARCH\Data\AUG0515\BFB1.D Vial: 1
Acq On : 5 Aug 2015 7:18 Operator: AGK-RLD
Sample : 117325,BFB, Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W080315.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.189 to 4.201 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.3	13251	PASS
75	95	30	60	46.7	35802	PASS
95	95	100	100	100.0	76624	PASS
96	95	5	9	6.4	4881	PASS
173	174	0.00	2	0.1	110	PASS
174	95	50	100	97.6	74818	PASS
175	174	5	9	8.2	6121	PASS
176	174	95	101	97.9	73253	PASS
177	176	5	9	8.2	5996	PASS

80315.M Thu Aug 06 08:05:50 2015

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W080315.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\AUG0515\BFB1.D
Injection Date : 5 Aug 2015 Log Time Period (hrs) : ALL
Injection Time : 07:18 Total files within period : 13
Sample Directory : C:\INSTARCH\DATA\AUG0515\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
CCV1	1.00	1.00	1.00	117325,CCV, 10.0/100.0 ug/L, 5.0 mL P	5 Aug 2015	08:06
TLCS1	1.00	1.00	1.00	117325,LCSW,100 10.0/100.0 ug/L, 5.0 mL P	5 Aug 2015	08:36
TMB1	1.00	1.00	1.00	117325,MBW,100 5.0 mL DI H20 Purged + IS	5 Aug 2015	09:06
612627	1.00	1.00	1.00	117326,612627,100 5.0 mL Purged + IS/SS	5 Aug 2015	11:14
612627MS	1.00	1.00	1.00	117326,MSW612627,100 10.0/100.0 ug/L, pH<2, 5.	5 Aug 2015	12:35
612627SD	1.00	1.00	1.00	117326,MSDW612627,100 10.0/100.0 ug/L, pH<2, 5.	5 Aug 2015	13:06
CCVF1	1.00	1.00	1.00	117326,CCVF, 10.0/100.0 ug/L, 5.0 mL P	5 Aug 2015	14:03

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : CT Laboratories, LLC Contract :
Project : Site : Location : Group :
Lab File ID (Standard): CALW4.D Date Analyzed : 3 Aug 2015
Instrument ID : VMS3 Time Analyzed : 17:33
GC Column : ZB-624 ID : VMS3(mm) Heated Purge (Y:N) : N

	IS1		IS2		IS3	
	Area #	RT #	Area #	RT #	Area #	RT #
12 HOUR STD	1162730	7.38	960423	11.28	738264	14.59
UPPER LIMIT	2325460	7.88	1920846	11.78	1476528	15.09
LOWER LIMIT	581365	6.88	480212	10.78	369132	14.09
File ID Sample						
612627 117326,61	1135354	7.38	934690	11.28	709479	14.59
612627MS 117326,MS	1203549	7.38	1002902	11.28	766049	14.59
612627SD 117326,MS	1146319	7.37	955277	11.28	752454	14.59
CCV1 117325,CC	925381	7.37	790022	11.28	671184	14.59
CCVF1 117326,CC	1216258	7.38	1131237	11.28	873091	14.59
TLCS1 117325,LC	1154572	7.38	961366	11.28	761811	14.59
TMB1 117325,MB	914874	7.38	767566	11.28	616811	14.59

IS1 = FLUOROBENZENE**ISTD**
IS2 = d5-CHLOROBENZENE**ISTD**
IS3 = d4-1,4-DICHLOROBENZENE**IS

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = 0.5 minutes of internal standard RT
RT LOWER LIMIT = -0.5 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk
* Values outside of contract required QC limits

SEMI-VOLATILE ORGANIC ANALYSIS
QUALITY CONTROL SUMMARY
DOCUMENTS

CT LABORATORIES
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1B

Sample Description: MYRTL-IDW-GW-01

SEMIVOLATILE ORGANICS ANALYSIS

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	GROUND WATER	SDG No.:	112835
Sample wt/vol:	0.92 (g/L)	CTL Sample ID:	612629
% Solids:		Date Received:	07/27/2015
Conc. Extract Vol:	1.0 (mL)	Date/Time Prepared:	07/31/2015 / 10:00
Analytical Method:	EPA 8015C	Analytical Prep Batch #	53549
Analytical Run #:	117361	Dilution Factor:	1.00
Date & Time Analyzed:	08/03/2015 / 11:15	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	061815droeroic	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
DIESELCOMP	Diesel Range Organics	600		36	110	330	330
PHCC10C40	Extractable Range Organics	660		36	110	330	330

CT LABORATORIES
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1B

SEMIVOLATILE ORGANICS ANALYSIS

Sample Description: **MYRTL-IDW-GW-01**

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	GROUND WATER	SDG No.:	112835
Sample wt/vol:	0.920 (g/L)	CTL Sample ID:	612629
% Solids:		Date Received:	07/27/2015
Conc. Extract Vol:	1.0 (mL)	Date/Time Prepared:	07/30/2015 / 08:00
Analytical Method:	EPA 8270D	Analytical Prep Batch #	53524
Analytical Run #:	117308	Dilution Factor:	1.00
Date & Time Analyzed:	08/04/2015 / 19:01	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	1S073115	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
92-52-4	1,1'-Biphenyl	0.43	U	0.16	0.43	1.1	1.1
120-82-1	1,2,4-Trichlorobenzene	0.43	U	0.18	0.43	1.1	1.1
95-50-1	1,2-Dichlorobenzene	0.43	U	0.20	0.43	1.1	1.1
541-73-1	1,3-Dichlorobenzene	0.43	U	0.22	0.43	1.1	1.1
106-46-7	1,4-Dichlorobenzene	0.43	U	0.21	0.43	1.1	1.1
90-12-0	1-Methylnaphthalene	0.43	U	0.17	0.43	1.1	1.1
95-95-4	2,4,5-Trichlorophenol	2.2	U	1.2	2.2	5.4	5.4
88-06-2	2,4,6-Trichlorophenol	2.2	U	1.1	2.2	5.4	5.4
120-83-2	2,4-Dichlorophenol	2.2	U	1.1	2.2	5.4	5.4
105-67-9	2,4-Dimethylphenol	2.2	U	0.89	2.2	5.4	5.4
51-28-5	2,4-Dinitrophenol	5.4	U	1.6	5.4	11	11
121-14-2	2,4-Dinitrotoluene	0.43	U	0.23	0.43	1.1	1.1
87-65-0	2,6-Dichlorophenol	2.2	U	1.3	2.2	5.4	5.4
606-20-2	2,6-Dinitrotoluene	0.43	U	0.30	0.43	1.1	1.1
91-58-7	2-Chloronaphthalene	0.43	U	0.20	0.43	1.1	1.1
95-57-8	2-Chlorophenol	2.2	U	0.95	2.2	5.4	5.4
91-57-6	2-Methylnaphthalene	0.43	U	0.18	0.43	1.1	1.1
95-48-7	2-Methylphenol	2.2	U	0.93	2.2	5.4	5.4
88-74-4	2-Nitroaniline	0.43	U	0.24	0.43	2.2	2.2
88-75-5	2-Nitrophenol	2.2	U	0.98	2.2	5.4	5.4
1319-77-3	3 & 4-Methylphenol	3.9	U	1.5	3.9	9.8	9.8
91-94-1	3,3'-Dichlorobenzidine	1.1	U	0.72	1.1	2.7	2.7
99-09-2	3-Nitroaniline	1.1	U	0.28	1.1	2.2	2.2
534-52-1	4,6-Dinitro-2-methylphenol	2.2	U	1.7	2.2	11	11

CT LABORATORIES
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1B

Sample Description: MYRTL-IDW-GW-01

SEMIVOLATILE ORGANICS ANALYSIS

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	GROUND WATER	SDG No.:	112835
Sample wt/vol:	0.920 (g/L)	CTL Sample ID:	612629
% Solids:		Date Received:	07/27/2015
Conc. Extract Vol:	1.0 (mL)	Date/Time Prepared:	07/30/2015 / 08:00
Analytical Method:	EPA 8270D	Analytical Prep Batch #	53524
Analytical Run #:	117308	Dilution Factor:	1.00
Date & Time Analyzed:	08/04/2015 / 19:01	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	1S073115	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
101-55-3	4-Bromophenyl-phenyl ether	0.43	U	0.22	0.43	2.2	2.2
59-50-7	4-Chloro-3-methylphenol	2.2	U	0.87	2.2	5.4	5.4
106-47-8	4-Chloroaniline	0.43	U	0.13	0.43	1.1	1.1
7005-72-3	4-Chlorophenyl-phenyl ether	0.43	U	0.20	0.43	1.1	1.1
100-01-6	4-Nitroaniline	0.43	U	0.16	0.43	1.1	1.1
100-02-7	4-Nitrophenol	5.4	U	1.2	5.4	11	11
83-32-9	Acenaphthene	0.43	U	0.20	0.43	1.1	1.1
208-96-8	Acenaphthylene	0.43	U	0.18	0.43	1.1	1.1
98-86-2	Acetophenone	0.43	U	0.29	0.43	1.1	1.1
62-53-3	Aniline	2.2	U	0.78	2.2	4.3	4.3
120-12-7	Anthracene	0.43	U	0.12	0.43	1.1	1.1
1912-24-9	Atrazine	0.43	U	0.28	0.43	1.1	1.1
103-33-3/122-66-7	Azobenzene & 1,2-Diphenylhydra	0.87	U	0.57	0.87	2.2	2.2
100-52-7	Benzaldehyde	0.43	U	0.27	0.43	1.1	1.1
92-87-5	Benzidine	54	U	32	54	110	110
56-55-3	Benzo(a)anthracene	0.43	U	0.13	0.43	1.1	1.1
50-32-8	Benzo(a)pyrene	0.43	U	0.15	0.43	1.1	1.1
205-99-2	Benzo(b)fluoranthene	0.43	U	0.18	0.43	1.1	1.1
191-24-2	Benzo(g,h,i)perylene	0.43	U	0.23	0.43	1.1	1.1
207-08-9	Benzo(k)fluoranthene	0.43	U	0.22	0.43	1.1	1.1
65-85-0	Benzoic acid	27	U	12	27	54	54
100-51-6	Benzyl alcohol	1.1	U	0.59	1.1	2.2	2.2
111-91-1	Bis(2-chloroethoxy)methane	0.43	U	0.21	0.43	1.1	1.1
111-44-4	Bis(2-chloroethyl)ether	0.43	U	0.23	0.43	1.1	1.1

CT LABORATORIES
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1B

SEMIVOLATILE ORGANICS ANALYSIS

Sample Description: **MYRTL-IDW-GW-01**

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	GROUND WATER	SDG No.:	112835
Sample wt/vol:	0.920 (g/L)	CTL Sample ID:	612629
% Solids:		Date Received:	07/27/2015
Conc. Extract Vol:	1.0 (mL)	Date/Time Prepared:	07/30/2015 / 08:00
Analytical Method:	EPA 8270D	Analytical Prep Batch #	53524
Analytical Run #:	117308	Dilution Factor:	1.00
Date & Time Analyzed:	08/04/2015 / 19:01	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	1S073115	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
108-60-1	Bis(2-chloroisopropyl)ether	0.43	U	0.24	0.43	1.1	1.1
117-81-7	Bis(2-ethylhexyl)phthalate	0.73	J	0.48	1.1	2.2	2.2
85-68-7	Butylbenzylphthalate	1.1	U	0.51	1.1	2.2	2.2
105-60-2	Caprolactam	1.1	U	0.21	1.1	2.2	2.2
86-74-8	Carbazole	0.43	U	0.13	0.43	1.1	1.1
218-01-9	Chrysene	0.43	U	0.17	0.43	1.1	1.1
53-70-3	Dibenzo(a,h)anthracene	0.43	U	0.18	0.43	1.1	1.1
132-64-9	Dibenzofuran	0.43	U	0.21	0.43	1.1	1.1
84-66-2	Diethylphthalate	1.1	U	0.49	1.1	2.2	2.2
131-11-3	Dimethylphthalate	1.1	U	0.59	1.1	2.2	2.2
84-74-2	Di-n-butylphthalate	2.2	U	0.73	2.2	4.3	4.3
117-84-0	Di-n-octylphthalate	1.1	U	0.53	1.1	2.2	2.2
206-44-0	Fluoranthene	0.43	U	0.14	0.43	1.1	1.1
86-73-7	Fluorene	0.43	U	0.21	0.43	1.1	1.1
118-74-1	Hexachlorobenzene	0.43	U	0.29	0.43	1.1	1.1
87-68-3	Hexachlorobutadiene	0.43	U	0.20	0.43	1.1	1.1
77-47-4	Hexachlorocyclopentadiene	1.1	U	0.28	1.1	2.2	2.2
67-72-1	Hexachloroethane	0.43	U	0.24	0.43	1.1	1.1
193-39-5	Indeno(1,2,3-cd)pyrene	0.43	U	0.20	0.43	1.1	1.1
78-59-1	Isophorone	0.43	U	0.20	0.43	1.1	1.1
91-20-3	Naphthalene	0.43	U	0.20	0.43	1.1	1.1
98-95-3	Nitrobenzene	0.43	U	0.17	0.43	1.1	1.1
62-75-9	N-Nitrosodimethylamine	1.1	U	0.51	1.1	2.2	2.2
621-64-7	N-Nitroso-di-n-propylamine	0.43	U	0.20	0.43	1.1	1.1

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1B

SEMIVOLATILE ORGANICS ANALYSIS

Sample Description: **MYRTL-IDW-GW-01**

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	GROUND WATER	SDG No.:	112835
Sample wt/vol:	0.920 (g/L)	CTL Sample ID:	612629
% Solids:		Date Received:	07/27/2015
Conc. Extract Vol:	1.0 (mL)	Date/Time Prepared:	07/30/2015 / 08:00
Analytical Method:	EPA 8270D	Analytical Prep Batch #	53524
Analytical Run #:	117308	Dilution Factor:	1.00
Date & Time Analyzed:	08/04/2015 / 19:01	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	1S073115	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
86-30-6/122-39-4	N-Nitrosodiphenylamine & Diphn	0.87	U	0.39	0.87	2.2	2.2
930-55-2	N-Nitrosopyrrolidine	1.1	U	0.23	1.1	2.2	2.2
87-86-5	Pentachlorophenol	2.2	U	1.2	2.2	5.4	5.4
85-01-8	Phenanthrene	0.43	U	0.33	0.43	1.1	1.1
108-95-2	Phenol	2.2	U	0.52	2.2	5.4	5.4
129-00-0	Pyrene	0.43	U	0.14	0.43	1.1	1.1
110-86-1	Pyridine	1.1	U	0.67	1.1	4.3	4.3

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1B

SEMIVOLATILE ORGANICS ANALYSIS

Sample Description

MYRTL-IDW-SO-01

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	TCLP	SDG No.:	112835
Sample wt/vol:	0.100 (g/L)	CTL Sample ID:	612627
% Solids:		Date Received:	07/27/2015
Conc. Extract Vol:	1.0 (mL)	Date/Time Prepared:	07/31/2015 / 10:00
Analytical Method:	EPA 8270D	Analytical Prep Batch #	53550
Analytical Run #:	117414	Dilution Factor:	1.00
Date & Time Analyzed:	08/04/2015 / 17:42	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			07/30/2015 / 07:15
ICAL Calibration #:	1S073115	Concentration Units:	mg/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
106-46-7	1,4-Dichlorobenzene	0.0040	U	0.0019	0.0040	0.010	0.010
95-95-4	2,4,5-Trichlorophenol	0.020	U	0.011	0.020	0.050	0.050
88-06-2	2,4,6-Trichlorophenol	0.020	U	0.010	0.020	0.050	0.050
121-14-2	2,4-Dinitrotoluene	0.0040	U	0.0021	0.0040	0.010	0.010
95-48-7	2-Methylphenol	0.020	U	0.0086	0.020	0.050	0.050
1319-77-3	3 & 4-Methylphenol	0.036	U	0.014	0.036	0.090	0.090
118-74-1	Hexachlorobenzene	0.0040	U	0.0027	0.0040	0.010	0.010
87-68-3	Hexachlorobutadiene	0.0040	U	0.0018	0.0040	0.010	0.010
67-72-1	Hexachloroethane	0.0040	U	0.0022	0.0040	0.010	0.010
98-95-3	Nitrobenzene	0.0040	U	0.0016	0.0040	0.010	0.010
87-86-5	Pentachlorophenol	0.020	U	0.011	0.020	0.050	0.050
110-86-1	Pyridine	0.010	U	0.0062	0.010	0.030	0.040

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1B

Sample Description: MYRTL-IDW-SO-01

SEMIVOLATILE ORGANICS ANALYSIS

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	SOIL	SDG No.:	112835
Sample wt/vol:	10.06 (g/L)	CTL Sample ID:	612628
% Solids:	86.2	Date Received:	07/27/2015
Conc. Extract Vol:	1.0 (mL)	Date/Time Prepared:	07/30/2015 / 9:00
Analytical Method:	EPA 8015C	Analytical Prep Batch #	53557
Analytical Run #:	117445	Dilution Factor:	1.00
Date & Time Analyzed:	08/05/2015 / 23:39	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	080515droeroic	Concentration Units:	mg/kg

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
DIESELCOMP	Diesel Range Organics	46.0		5.8	17	46	46
PHCC10C40	Extractable Range Organics	60.0		5.8	17	46	46

CT LABORATORIES
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1B-2

Sample Description: **METHOD BLANK**

SEMIVOLATILE ORGANICS ANALYSIS (MB or CC

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:		SDG No.:	112835
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	614475
% Solids:		Date Received:	07/27/2015
Conc. Extract Vol:	1.0 (mL)	Date/Time Prepared:	07/30/2015 / 08:00
Analytical Method:	EPA 8270D	Analytical Prep Batch #	53524
Analytical Run #:	117308	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	1S073115	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time	Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
92-52-4	1,1'-Biphenyl	08/04/2015 18:22	0.15	U	0.15	1.00	***0.50***
95-94-3	1,2,4,5-Tetrachlorobenzene	08/04/2015 18:22	0.17	U	0.17	1.00	***0.50***
120-82-1	1,2,4-Trichlorobenzene	08/04/2015 18:22	0.17	U	0.17	1.00	***0.50***
95-50-1	1,2-Dichlorobenzene	08/04/2015 18:22	0.18	U	0.18	1.00	***0.50***
541-73-1	1,3-Dichlorobenzene	08/04/2015 18:22	0.20	U	0.20	1.00	***0.50***
106-46-7	1,4-Dichlorobenzene	08/04/2015 18:22	0.19	U	0.19	1.00	***0.50***
90-12-0	1-Methylnaphthalene	08/04/2015 18:22	0.16	U	0.16	1.00	***0.50***
58-90-2	2,3,4,6-Tetrachlorophenol	08/04/2015 18:22	1.1	U	1.1	5.0	***2.5***
95-95-4	2,4,5-Trichlorophenol	08/04/2015 18:22	1.1	U	1.1	5.0	***2.5***
88-06-2	2,4,6-Trichlorophenol	08/04/2015 18:22	1.0	U	1.0	5.0	***2.5***
120-83-2	2,4-Dichlorophenol	08/04/2015 18:22	1.0	U	1.0	5.0	***2.5***
105-67-9	2,4-Dimethylphenol	08/04/2015 18:22	0.82	U	0.82	5.0	***2.5***
51-28-5	2,4-Dinitrophenol	08/04/2015 18:22	1.5	U	1.5	10.0	***5.0***
121-14-2	2,4-Dinitrotoluene	08/04/2015 18:22	0.21	U	0.21	1.00	***0.50***
87-65-0	2,6-Dichlorophenol	08/04/2015 18:22	1.2	U	1.2	5.0	***2.5***
606-20-2	2,6-Dinitrotoluene	08/04/2015 18:22	0.28	U	0.28	1.00	***0.50***
91-58-7	2-Chloronaphthalene	08/04/2015 18:22	0.18	U	0.18	1.00	***0.50***
95-57-8	2-Chlorophenol	08/04/2015 18:22	0.87	U	0.87	5.0	***2.5***
91-57-6	2-Methylnaphthalene	08/04/2015 18:22	0.17	U	0.17	1.00	***0.50***
95-48-7	2-Methylphenol	08/04/2015 18:22	0.86	U	0.86	5.0	***2.5***
88-74-4	2-Nitroaniline	08/04/2015 18:22	0.22	U	0.22	2.00	***1.00***
88-75-5	2-Nitrophenol	08/04/2015 18:22	0.90	U	0.90	5.0	***2.5***
1319-77-3	3 & 4-Methylphenol	08/04/2015 18:22	1.4	U	1.4	9.0	***4.5***

CT LABORATORIES
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1B-2

SEMIVOLATILE ORGANICS ANALYSIS (MB or CC

Sample Description: **METHOD BLANK**

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:		SDG No.:	112835
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	614475
% Solids:		Date Received:	07/27/2015
Conc. Extract Vol:	1.0 (mL)	Date/Time Prepared:	07/30/2015 / 08:00
Analytical Method:	EPA 8270D	Analytical Prep Batch #	53524
Analytical Run #:	117308	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	1S073115	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time	Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
91-94-1	3,3'-Dichlorobenzidine	08/04/2015 18:22	0.66	U	0.66	2.50	***1.25***
99-09-2	3-Nitroaniline	08/04/2015 18:22	0.26	U	0.26	2.00	***1.00***
534-52-1	4,6-Dinitro-2-methylphenol	08/04/2015 18:22	1.6	U	1.6	10.0	***5.0***
101-55-3	4-Bromophenyl-phenyl ether	08/04/2015 18:22	0.20	U	0.20	2.00	***1.00***
59-50-7	4-Chloro-3-methylphenol	08/04/2015 18:22	0.76	U	0.76	5.00	***2.50***
106-47-8	4-Chloroaniline	08/04/2015 18:22	0.12	U	0.12	1.00	***0.50***
7005-72-3	4-Chlorophenyl-phenyl ether	08/04/2015 18:22	0.18	U	0.18	1.00	***0.50***
100-01-6	4-Nitroaniline	08/04/2015 18:22	0.15	U	0.15	1.00	***0.50***
100-02-7	4-Nitrophenol	08/04/2015 18:22	1.1	U	1.1	10.0	***5.0***
83-32-9	Acenaphthene	08/04/2015 18:22	0.18	U	0.18	1.00	***0.50***
208-96-8	Acenaphthylene	08/04/2015 18:22	0.17	U	0.17	1.00	***0.50***
98-86-2	Acetophenone	08/04/2015 18:22	0.27	U	0.27	1.00	***0.50***
62-53-3	Aniline	08/04/2015 18:22	0.72	U	0.72	4.00	***2.00***
120-12-7	Anthracene	08/04/2015 18:22	0.11	U	0.11	1.00	***0.50***
1912-24-9	Atrazine	08/04/2015 18:22	0.26	U	0.26	1.00	***0.50***
103-33-3/122-66-7	Azobenzene & 1,2-Diphenylhydra	08/04/2015 18:22	0.52	U	0.52	2.00	***1.00***
100-52-7	Benzaldehyde	08/04/2015 18:22	0.25	U	0.25	1.00	***0.50***
92-87-5	Benzidine	08/04/2015 18:22	29	U	29	100	***50***
56-55-3	Benzo(a)anthracene	08/04/2015 18:22	0.12	U	0.12	1.00	***0.50***
50-32-8	Benzo(a)pyrene	08/04/2015 18:22	0.14	U	0.14	1.00	***0.50***
205-99-2	Benzo(b)fluoranthene	08/04/2015 18:22	0.17	U	0.17	1.00	***0.50***
191-24-2	Benzo(g,h,i)perylene	08/04/2015 18:22	0.21	U	0.21	1.00	***0.50***
207-08-9	Benzo(k)fluoranthene	08/04/2015 18:22	0.20	U	0.20	1.00	***0.50***

CT LABORATORIES
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1B-2

SEMIVOLATILE ORGANICS ANALYSIS (MB or CC

Sample Description: **METHOD BLANK**

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:		SDG No.:	112835
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	614475
% Solids:		Date Received:	07/27/2015
Conc. Extract Vol:	1.0 (mL)	Date/Time Prepared:	07/30/2015 / 08:00
Analytical Method:	EPA 8270D	Analytical Prep Batch #	53524
Analytical Run #:	117308	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	1S073115	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
65-85-0	Benzoic acid	08/04/2015	18:22	11	U	11	50	***25***
100-51-6	Benzyl alcohol	08/04/2015	18:22	0.54	U	0.54	2.00	***1.00***
111-91-1	Bis(2-chloroethoxy)methane	08/04/2015	18:22	0.19	U	0.19	1.00	***0.50***
111-44-4	Bis(2-chloroethyl)ether	08/04/2015	18:22	0.21	U	0.21	1.00	***0.50***
108-60-1	Bis(2-chloroisopropyl)ether	08/04/2015	18:22	0.22	U	0.22	1.00	***0.50***
117-81-7	Bis(2-ethylhexyl)phthalate	08/04/2015	18:22	0.44	U	0.44	2.00	***1.00***
85-68-7	Butylbenzylphthalate	08/04/2015	18:22	0.47	U	0.47	2.00	***1.00***
105-60-2	Caprolactam	08/04/2015	18:22	0.19	U	0.19	2.00	***1.00***
86-74-8	Carbazole	08/04/2015	18:22	0.12	U	0.12	1.00	***0.50***
218-01-9	Chrysene	08/04/2015	18:22	0.16	U	0.16	1.00	***0.50***
53-70-3	Dibenzo(a,h)anthracene	08/04/2015	18:22	0.17	U	0.17	1.00	***0.50***
132-64-9	Dibenzofuran	08/04/2015	18:22	0.19	U	0.19	1.00	***0.50***
84-66-2	Diethylphthalate	08/04/2015	18:22	0.45	U	0.45	2.00	***1.00***
131-11-3	Dimethylphthalate	08/04/2015	18:22	0.54	U	0.54	2.00	***1.00***
84-74-2	Di-n-butylphthalate	08/04/2015	18:22	0.67	U	0.67	4.00	***2.00***
117-84-0	Di-n-octylphthalate	08/04/2015	18:22	0.49	U	0.49	2.00	***1.00***
206-44-0	Fluoranthene	08/04/2015	18:22	0.13	U	0.13	1.00	***0.50***
86-73-7	Fluorene	08/04/2015	18:22	0.19	U	0.19	1.00	***0.50***
118-74-1	Hexachlorobenzene	08/04/2015	18:22	0.27	U	0.27	1.00	***0.50***
87-68-3	Hexachlorobutadiene	08/04/2015	18:22	0.18	U	0.18	1.00	***0.50***
77-47-4	Hexachlorocyclopentadiene	08/04/2015	18:22	0.26	U	0.26	2.00	***1.00***
67-72-1	Hexachloroethane	08/04/2015	18:22	0.22	U	0.22	1.00	***0.50***
193-39-5	Indeno(1,2,3-cd)pyrene	08/04/2015	18:22	0.18	U	0.18	1.00	***0.50***

CT LABORATORIES
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1B-2

SEMIVOLATILE ORGANICS ANALYSIS (MB or CC

Sample Description: **METHOD BLANK**

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:		SDG No.:	112835
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	614475
% Solids:		Date Received:	07/27/2015
Conc. Extract Vol:	1.0 (mL)	Date/Time Prepared:	07/30/2015 / 08:00
Analytical Method:	EPA 8270D	Analytical Prep Batch #	53524
Analytical Run #:	117308	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	1S073115	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time	Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
78-59-1	Isophorone	08/04/2015 18:22	0.18	U	0.18	1.00	***0.50***
91-20-3	Naphthalene	08/04/2015 18:22	0.18	U	0.18	1.00	***0.50***
98-95-3	Nitrobenzene	08/04/2015 18:22	0.16	U	0.16	1.00	***0.50***
62-75-9	N-Nitrosodimethylamine	08/04/2015 18:22	0.47	U	0.47	2.00	***1.00***
621-64-7	N-Nitroso-di-n-propylamine	08/04/2015 18:22	0.18	U	0.18	1.00	***0.50***
86-30-6/122-39-4	N-Nitrosodiphenylamine & Diphn	08/04/2015 18:22	0.36	U	0.36	2.00	***1.00***
930-55-2	N-Nitrosopyrrolidine	08/04/2015 18:22	0.21	U	0.21	2.00	***1.00***
87-86-5	Pentachlorophenol	08/04/2015 18:22	1.1	U	1.1	5.0	***2.5***
85-01-8	Phenanthrene	08/04/2015 18:22	0.30	U	0.30	1.00	***0.50***
108-95-2	Phenol	08/04/2015 18:22	0.48	U	0.48	5.00	***2.50***
129-00-0	Pyrene	08/04/2015 18:22	0.13	U	0.13	1.00	***0.50***
110-86-1	Pyridine	08/04/2015 18:22	0.62	U	0.62	4.00	***2.00***

CT LABORATORIES
delivering more than data from your environmental analyses

1B-2

SEMIVOLATILE ORGANICS ANALYSIS (MB or CC

Sample Description: **METHOD BLANK**

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:		SDG No.:	112835
Sample wt/vol:	1.00 (g/L)	CTL Sample ID:	614678
% Solids:		Date Received:	07/27/2015
Conc. Extract Vol:	1.0 (mL)	Date/Time Prepared:	07/31/2015 / 10:00
Analytical Method:	EPA 8015C	Analytical Prep Batch #	53549
Analytical Run #:	117361	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	061815droeroic	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
DIESELCOMP	Diesel Range Organics	08/03/2015	10:08	33	U	33	300	***150***
PHCC10C40	Extractable Range Organics	08/03/2015	10:08	33	U	33	300	***150***

CT LABORATORIES
delivering more than data from your environmental analyses

1B-2

Sample Description: **METHOD BLANK**

SEMIVOLATILE ORGANICS ANALYSIS (MB or CC

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:		SDG No.:	112835
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	614681
% Solids:		Date Received:	07/27/2015
Conc. Extract Vol:	1.0 (mL)	Date/Time Prepared:	07/31/2015 / 10:00
Analytical Method:	EPA 8270D	Analytical Prep Batch #	53550
Analytical Run #:	117414	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			07/30/2015 / 07:15
ICAL Calibration #:	1S073115	Concentration Units:	mg/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
106-46-7	1,4-Dichlorobenzene	08/04/2015	15:24	0.00019	U	0.00019	0.00100	***0.00050***
95-95-4	2,4,5-Trichlorophenol	08/04/2015	15:24	0.0011	U	0.0011	0.0050	***0.0025***
88-06-2	2,4,6-Trichlorophenol	08/04/2015	15:24	0.0010	U	0.0010	0.0050	***0.0025***
121-14-2	2,4-Dinitrotoluene	08/04/2015	15:24	0.00021	U	0.00021	0.00100	***0.0005***
95-48-7	2-Methylphenol	08/04/2015	15:24	0.00086	U	0.00086	0.00500	***0.002500***
1319-77-3	3 & 4-Methylphenol	08/04/2015	15:24	0.0014	U	0.0014	0.0090	***0.0045***
118-74-1	Hexachlorobenzene	08/04/2015	15:24	0.00027	U	0.00027	0.00100	***0.00050***
87-68-3	Hexachlorobutadiene	08/04/2015	15:24	0.00018	U	0.00018	0.00100	***0.00050***
67-72-1	Hexachloroethane	08/04/2015	15:24	0.00022	U	0.00022	0.00100	***0.00050***
98-95-3	Nitrobenzene	08/04/2015	15:24	0.00016	U	0.00016	0.00100	***0.00050***
87-86-5	Pentachlorophenol	08/04/2015	15:24	0.0011	U	0.0011	0.0050	***0.0025***
110-86-1	Pyridine	08/04/2015	15:24	0.00062	U	0.00062	0.00400	***0.00200***

CT LABORATORIES
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1B-2

SEMIVOLATILE ORGANICS ANALYSIS (MB or CC

Sample Description: **METHOD BLANK**

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:		SDG No.:	112835
Sample wt/vol:	10.00 (g/L)	CTL Sample ID:	615084
% Solids:		Date Received:	07/27/2015
Conc. Extract Vol:	1.0 (mL)	Date/Time Prepared:	07/30/2015 / 9:00
Analytical Method:	EPA 8015C	Analytical Prep Batch #	53557
Analytical Run #:	117445	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	080515droeroic	Concentration Units:	mg/kg

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
DIESELCOMP	Diesel Range Organics	08/05/2015	22:33	5	U	5	40	***20***
PHCC10C40	Extractable Range Organics	08/05/2015	22:33	5	U	5	40	***20***

CT LABORATORIES
delivering more than data from your environmental analyses

2C

WATER SEMI VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Analytical Method:	EPA 8015C	SDG:	112835
Analytical Run #:	117361	ICAL Calibration #:	061815droeroic

CTLab #	612629				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR: Octacosane	100	31	60	142	*FAIL*
Surr: Triacontane	100	39	29	140	
CTLab #	**614678**	Sample Type:		Method Blank	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR: Octacosane	100	87.2	60	142	
Surr: Triacontane	100	80.3	29	140	
CTLab #	**614679**	Sample Type:		Lab Control Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR: Octacosane	100	84.2	60	142	
Surr: Triacontane	100	74.0	29	140	

CT LABORATORIES
delivering more than data from your environmental analyses

2C

WATER SEMI VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Analytical Method:	EPA 8270D	SDG:	112835
Analytical Run #:	117308	ICAL Calibration #:	1S073115

CTLab #	612629				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,6-Tribromophenol	100	50	43	140	
Surr: 2-Fluorobiphenyl	100	31	44	119	*FAIL*
Surr: 2-Fluorophenol	100	28	19	119	
Surr: Nitrobenzene-d5	100	39	44	120	*FAIL*
Surr: Phenol-d5	100	20	1	114	
Surr: Terphenyl-d14	100	26	50	134	*FAIL*

CTLab #	614475	Sample Type:	Method Blank		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,6-Tribromophenol		66.2	43	140	
Surr: 2-Fluorobiphenyl		59.1	44	119	
Surr: 2-Fluorophenol		37.4	19	119	
Surr: Nitrobenzene-d5		57.4	44	120	
Surr: Phenol-d5		24.4	1	114	
Surr: Terphenyl-d14		73.1	50	134	

CTLab #	614476	Sample Type:	Lab Control Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,6-Tribromophenol	100	78.1	43	140	
Surr: 2-Fluorobiphenyl	100	62.1	44	119	
Surr: 2-Fluorophenol	100	40.0	19	119	
Surr: Nitrobenzene-d5	100	62.1	44	120	
Surr: Phenol-d5	100	26.7	1	114	
Surr: Terphenyl-d14	100	78.0	50	134	

CT LABORATORIES
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2C

WATER SEMI VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Analytical Method: EPA 8270D SDG: 112835

Analytical Run #: 117414 ICAL Calibration #: 1S073115

CTLab #	612627				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,6-Tribromophenol	100	80	43	140	
Surr: 2-Fluorobiphenyl	100	61	44	119	
Surr: 2-Fluorophenol	100	37	19	119	
Surr: Nitrobenzene-d5	100	59	44	120	
Surr: Phenol-d5	100	24	1	114	
Surr: Terphenyl-d14	100	75	50	134	

CTLab #	614681	Sample Type:	Method Blank		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,6-Tribromophenol	100	71.4	43	140	
Surr: 2-Fluorobiphenyl	100	58.9	44	119	
Surr: 2-Fluorophenol	100	35.6	19	119	
Surr: Nitrobenzene-d5	100	59.9	44	120	
Surr: Phenol-d5	100	23.9	1	114	
Surr: Terphenyl-d14	100	72.0	50	134	

CTLab #	614682	Sample Type:	Lab Control Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,6-Tribromophenol	100	78.3	43	140	
Surr: 2-Fluorobiphenyl	100	60.5	44	119	
Surr: 2-Fluorophenol	100	38.1	19	119	
Surr: Nitrobenzene-d5	100	59.0	44	120	
Surr: Phenol-d5	100	25.4	1	114	
Surr: Terphenyl-d14	100	76.4	50	134	

CTLab #	614684	Sample Type:	Matrix Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,6-Tribromophenol	100	81.1	43	140	
Surr: 2-Fluorobiphenyl	100	61.1	44	119	
Surr: 2-Fluorophenol	100	38.4	19	119	
Surr: Nitrobenzene-d5	100	62.1	44	120	
Surr: Phenol-d5	100	25.3	1	114	
Surr: Terphenyl-d14	100	76.5	50	134	

CT LABORATORIES
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3C

Sample Description

MYRTL-IDW-SO-01

WATER SEMIVOLATILE MATRIX SPIKE RECOVERY

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: TCLP SDG No.: 112835

Analytical Method: EPA 8270D Concentration Units: mg/L

Analytical Run #: 117414 Sample No.: 614684 Parent Sample No.: 612627

Analytical Prep Batch #: 53550 Analytical Preparation Date/Time: 07/31/2015 10:00

ICAL Calibration #: 1S073115

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,4-Dichlorobenzene	08/04/2015 18:02	29-112	0.102	BDL	0.200	51
2,4,5-Trichlorophenol	08/04/2015 18:02	53-123	0.139	BDL	0.200	70
2,4,6-Trichlorophenol	08/04/2015 18:02	50-125	0.146	BDL	0.200	73
2,4-Dinitrotoluene	08/04/2015 18:02	57-128	0.156	BDL	0.200	78
2-Methylphenol	08/04/2015 18:02	30-117	0.108	BDL	0.200	54
3 & 4-Methylphenol	08/04/2015 18:02	29-110	0.104	BDL	0.200	52
Hexachlorobenzene	08/04/2015 18:02	53-125	0.144	BDL	0.200	72
Hexachlorobutadiene	08/04/2015 18:02	22-124	0.101	BDL	0.200	50
Hexachloroethane	08/04/2015 18:02	21-115	0.0964	BDL	0.200	48
Nitrobenzene	08/04/2015 18:02	45-121	0.124	BDL	0.200	62
Pentachlorophenol	08/04/2015 18:02	35-138	0.151	BDL	0.200	76
Pyridine	08/04/2015 18:02	0-106	0.0720	BDL	0.200	36

Spike Recovery: 0 out of 12 outside QC limits

CT LABORATORIES
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3C

Sample Description: LCS

WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: CT Laboratories
Contract: AMEC FOSTER WHEELER-MYRTLE BEACH
Sample No.: 614476
SDG No.: 112835
Analytical Method: EPA 8270D
Concentration Units: ug/L

Sample No.: 614476
Parent Sample No.: 0
Analytical Prep Batch #: 53524
Analytical Preparation Date/Time: 07/30/2015 08:00
Analytical Run #: 117308
ICAL Calibration #: 1S073115

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,1'-Biphenyl	08/04/2015	18:42	49-115	12.8		20.0	64
1,2,4,5-Tetrachlorobenzene	08/04/2015	18:42	35-121	11.5		20.0	58
1,2,4-Trichlorobenzene	08/04/2015	18:42	29-116	11.2		20.0	56
1,2-Dichlorobenzene	08/04/2015	18:42	32-111	11.0		20.0	55
1,3-Dichlorobenzene	08/04/2015	18:42	28-110	10.7		20.0	54
1,4-Dichlorobenzene	08/04/2015	18:42	29-112	10.6		20.0	53
1-Methylnaphthalene	08/04/2015	18:42	41-119	12.0		20.0	60
2,3,4,6-Tetrachlorophenol	08/04/2015	18:42	50-128	15.0		20.0	75
2,4,5-Trichlorophenol	08/04/2015	18:42	53-123	13.7		20.0	68
2,4,6-Trichlorophenol	08/04/2015	18:42	50-125	14.1		20.0	70
2,4-Dichlorophenol	08/04/2015	18:42	47-121	13.0		20.0	65
2,4-Dimethylphenol	08/04/2015	18:42	31-124	13.7		20.0	68
2,4-Dinitrophenol	08/04/2015	18:42	23-143	10.6		20.0	53
2,4-Dinitrotoluene	08/04/2015	18:42	57-128	15.2		20.0	76
2,6-Dichlorophenol	08/04/2015	18:42	50-118	13.0		20.0	65
2,6-Dinitrotoluene	08/04/2015	18:42	57-124	14.6		20.0	73
2-Chloronaphthalene	08/04/2015	18:42	40-116	11.2		20.0	56
2-Chlorophenol	08/04/2015	18:42	38-117	12.1		20.0	60
2-Methylnaphthalene	08/04/2015	18:42	40-121	11.9		20.0	60
2-Methylphenol	08/04/2015	18:42	30-117	11.1		20.0	56
2-Nitroaniline	08/04/2015	18:42	55-127	13.5		20.0	68
2-Nitrophenol	08/04/2015	18:42	47-123	12.8		20.0	64
3 & 4-Methylphenol	08/04/2015	18:42	28-110	10.7		20.0	54
3,3'-Dichlorobenzidine	08/04/2015	18:42	27-129	17.5		20.0	88
3-Nitroaniline	08/04/2015	18:42	41-128	13.5		20.0	68
4,6-Dinitro-2-methylphenol	08/04/2015	18:42	44-137	11.2		20.0	56
4-Bromophenyl-phenyl ether	08/04/2015	18:42	55-124	14.3		20.0	72
4-Chloro-3-methylphenol	08/04/2015	18:42	52-119	13.5		20.0	68

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3C

Sample Description

LCS

WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: CT Laboratories
Contract: AMEC FOSTER WHEELER-MYRTLE BEACH
Sample No.: 614476
SDG No.: 112835
Analytical Method: EPA 8270D
Concentration Units: ug/L

Sample No.: 614476
Parent Sample No.: 0
Analytical Prep Batch #: 53524
Analytical Preparation Date/Time: 07/30/2015 08:00
Analytical Run #: 117308
ICAL Calibration #: 1S073115

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
4-Chloroaniline	08/04/2015	18:42	33-117	11.2		20.0	56
4-Chlorophenyl-phenyl ether	08/04/2015	18:42	53-121	13.3		20.0	66
4-Nitroaniline	08/04/2015	18:42	51-130	15.9		20.0	80
4-Nitrophenol	08/04/2015	18:42	0-113	0.328		20.0	2
Acenaphthene	08/04/2015	18:42	47-122	12.5		20.0	62
Acenaphthylene	08/04/2015	18:42	41-130	12.6		20.0	63
Acetophenone	08/04/2015	18:42	46-118	12.3		20.0	62
Aniline	08/04/2015	18:42	18-101	9.26		20.0	46
Anthracene	08/04/2015	18:42	57-123	14.8		20.0	74
Atrazine	08/04/2015	18:42	44-142	16.1		20.0	80
Azobenzene & 1,2-Diphenylhydra	08/04/2015	18:42	61-116	27.1		40.0	68
Benzaldehyde	08/04/2015	18:42	15-118	13.1		20.0	66
Benzidine	08/04/2015	18:42	0-165	6.80		20.0	34
Benzo(a)anthracene	08/04/2015	18:42	58-125	15.0		20.0	75
Benzo(a)pyrene	08/04/2015	18:42	54-128	16.5		20.0	82
Benzo(b)fluoranthene	08/04/2015	18:42	53-131	16.9		20.0	84
Benzo(g,h,i)perylene	08/04/2015	18:42	50-134	16.8		20.0	84
Benzo(k)fluoranthene	08/04/2015	18:42	57-129	16.7		20.0	84
Benzoic acid	08/04/2015	18:42	0-125	7.27		20.0	36
Benzyl alcohol	08/04/2015	18:42	31-112	12.6		20.0	63
Bis(2-chloroethoxy)methane	08/04/2015	18:42	48-120	12.4		20.0	62
Bis(2-chloroethyl)ether	08/04/2015	18:42	43-118	11.9		20.0	60
Bis(2-chloroisopropyl)ether	08/04/2015	18:42	37-130	11.8		20.0	59
Bis(2-ethylhexyl)phthalate	08/04/2015	18:42	55-135	15.2		20.0	76
Butylbenzylphthalate	08/04/2015	18:42	53-134	15.5		20.0	78
Caprolactam	08/04/2015	18:42	10-120	6.22		20.0	31
Carbazole	08/04/2015	18:42	60-122	16.8		20.0	84
Chrysene	08/04/2015	18:42	59-123	15.4		20.0	77

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3C

Sample Description

LCS

WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Sample No.: 614476 SDG No.: 112835

Analytical Method: EPA 8270D Concentration Units: ug/L

Sample No.: 614476 Parent Sample No.: 0

Analytical Prep Batch #: 53524 Analytical Preparation Date/Time: 07/30/2015 08:00

Analytical Run #: 117308 ICAL Calibration #: 1S073115

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Dibenzo(a,h)anthracene	08/04/2015	18:42	51-134	17.2		20.0	86
Dibenzofuran	08/04/2015	18:42	53-118	13.1		20.0	66
Diethylphthalate	08/04/2015	18:42	56-125	14.6		20.0	73
Dimethylphthalate	08/04/2015	18:42	45-127	14.0		20.0	70
Di-n-butylphthalate	08/04/2015	18:42	59-127	15.3		20.0	76
Di-n-octylphthalate	08/04/2015	18:42	51-140	16.0		20.0	80
Fluoranthene	08/04/2015	18:42	57-128	15.6		20.0	78
Fluorene	08/04/2015	18:42	52-124	13.5		20.0	68
Hexachlorobenzene	08/04/2015	18:42	53-125	14.4		20.0	72
Hexachlorobutadiene	08/04/2015	18:42	22-124	10.7		20.0	54
Hexachlorocyclopentadiene	08/04/2015	18:42	45-113	9.27		20.0	46
Hexachloroethane	08/04/2015	18:42	21-115	10.4		20.0	52
Indeno(1,2,3-cd)pyrene	08/04/2015	18:42	52-134	17.0		20.0	85
Isophorone	08/04/2015	18:42	42-124	12.3		20.0	62
Naphthalene	08/04/2015	18:42	40-121	11.5		20.0	58
Nitrobenzene	08/04/2015	18:42	45-121	12.5		20.0	62
N-Nitrosodimethylamine	08/04/2015	18:42	9-104	8.34		20.0	42
N-Nitroso-di-n-propylamine	08/04/2015	18:42	49-119	12.3		20.0	62
N-Nitrosodiphenylamine & Diphn	08/04/2015	18:42	51-123	29.3		40.0	73
N-Nitrosopyrrolidine	08/04/2015	18:42	48-113	12.3		20.0	62
Pentachlorophenol	08/04/2015	18:42	35-138	13.5		20.0	68
Phenanthrene	08/04/2015	18:42	59-120	14.5		20.0	72
Phenol	08/04/2015	18:42	0-108	5.66		20.0	28
Pyrene	08/04/2015	18:42	57-126	15.1		20.0	76
Pyridine	08/04/2015	18:42	0-106	7.73		20.0	39

CT LABORATORIES
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3C

Sample Description

LCS

WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name:	CT Laboratories	Contract	AMEC FOSTER WHEELER-MYRTLE BEACH
Sample No.:	614476	SDG No.:	112835
Analytical Method:	EPA 8270D	Concentration Units:	ug/L

Spike Recovery: 0 out of 81 outside limits

CT LABORATORIES
delivering more than data from your environmental analyses

3C

Sample Description

LCS

WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Sample No.: 614679

SDG No.: 112835

Analytical Method: EPA 8015C

Concentration Units: ug/L

Sample No.: 614679

Parent Sample No.: 0

Analytical Prep Batch #: 53549

Analytical Preparation Date/Time: 07/31/2015 10:00

Analytical Run #: 117361

ICAL Calibration #: 061815droeroic

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Diesel Range Organics	08/03/2015	10:42	36-132	1890		2500	76
Extractable Range Organics	08/03/2015	10:42	36-132	1880		2500	75

Spike Recovery: 0 out of 2 outside limits

CT LABORATORIES
delivering more than data from your environmental analyses

3C

Sample Description

LCS

WATER SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: CT Laboratories Contract AMEC FOSTER WHEELER-MYRTLE BEACH

Sample No.: 614682 SDG No.: 112835

Analytical Method: EPA 8270D Concentration Units: mg/L

Sample No.: 614682 Parent Sample No.: 0

Analytical Prep Batch #: 53550 Analytical Preparation Date/Time: 07/31/2015 10:00

Analytical Run #: 117414 ICAL Calibration #: 1S073115

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,4-Dichlorobenzene	08/04/2015	16:04	29-112	0.00983		0.0200	49
2,4,5-Trichlorophenol	08/04/2015	16:04	53-123	0.0138		0.0200	69
2,4,6-Trichlorophenol	08/04/2015	16:04	50-125	0.0137		0.0200	68
2,4-Dinitrotoluene	08/04/2015	16:04	57-128	0.0152		0.0200	76
2-Methylphenol	08/04/2015	16:04	30-117	0.0105		0.0200	52
3 & 4-Methylphenol	08/04/2015	16:04	29-110	0.0102		0.0200	51
Hexachlorobenzene	08/04/2015	16:04	53-125	0.0140		0.0200	70
Hexachlorobutadiene	08/04/2015	16:04	22-124	0.00980		0.0200	49
Hexachloroethane	08/04/2015	16:04	21-115	0.00924		0.0200	46
Nitrobenzene	08/04/2015	16:04	45-121	0.0116		0.0200	58
Pentachlorophenol	08/04/2015	16:04	35-138	0.0136		0.0200	68
Pyridine	08/04/2015	16:04	0-106	0.00678		0.0200	34

Spike Recovery: 0 out of 12 outside limits

CT LABORATORIES
delivering more than data from your environmental analyses

3D

Sample Description

MYRTL-IDW-SO-01

SOIL SEMIVOLATILE MATRIX SPIKE RECOVERY

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: SOIL SDG No.: 112835

Analytical Method: EPA 8015C Concentration Units: mg/kg

Analytical Run #: 117445 Sample No.: 615086 Parent Sample No.: 612628

Analytical Prep Batch #: 53557 Analytical Preparation Date/Time: 07/30/2015 9:00

ICAL Calibration #:

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Diesel Range Organics	08/07/2015	13:09	38-132	277	46.0	288	80
Extractable Range Organics	08/07/2015	13:09	38-132	283	60.0	288	77

Spike Recovery: 0 out of 2 outside QC limits

CT LABORATORIES
delivering more than data from your environmental analyses

3D

Sample Description

MYRTL-IDW-SO-01

SOIL SEMIVOLATILE MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: SOIL SDG No.: 112835

Analytical Method: EPA 8015C Concentration Units: mg/kg

Analytical Run #: 117445 Sample No.: 615087 Parent Sample No.: 615086

Analytical Prep Batch #: 53557 Analytical Preparation Date/Time: 07/30/2015 9:00

ICAL Calibration #:

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
Diesel Range Organics	08/07/2015	13:42	258	289	89	8	38-132	30
Extractable Range Organics	08/07/2015	13:42	264	289	71	7	38-132	30

RPD or Spike Recovery: 0 out of 2 outside QC limits

CT LABORATORIES
delivering more than data from your environmental analyses

3D

Sample Description

LCS

SOIL SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Sample No.: 615085 SDG No.: 112835

Analytical Method: EPA 8015C Concentration Units: mg/kg

Sample No.: 615085 Parent Sample No.: 0

Analytical Prep Batch #: 53557 Analytical Preparation Date/Time: 07/30/2015 9:00

Analytical Run #: 117445 ICAL Calibration #:

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Diesel Range Organics	08/05/2015	23:06	38-132	214		250	86
Extractable Range Organics	08/05/2015	23:06	38-132	214		250	86

Spike Recovery: 0 out of 2 outside limits

CT LABORATORIES
delivering more than data from your environmental analyses

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Sample ID:	614475	SDG No.:	112835
Matrix:	LIQUID	Date Extracted:	07/30/2015
Date Analyzed:	08/04/2015	Time Analyzed:	18:22
Analytical Method:	EPA 8270D	Extraction Method:	SW3510
Analytical Run #:	117308	Extraction Batch #:	53524
		ICAL Calibration #:	1S073115

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED
1	MBW	614475	08/04/2015 18:22
2	LCSW	614476	08/04/2015 18:42
3	MYRTL-IDW-GW-01	612629	08/04/2015 19:01

CT LABORATORIES
delivering more than data from your environmental analyses

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Sample ID:	614678	SDG No.:	112835
Matrix:	LIQUID	Date Extracted:	07/31/2015
Date Analyzed:	08/03/2015	Time Analyzed:	10:08
Analytical Method:	EPA 8015C	Extraction Method:	SW3510C
Analytical Run #:	117361	Extraction Batch #:	53549
		ICAL Calibration #:	061815droeroic

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED
1	MBW	614678	08/03/2015 10:08
2	LCSW	614679	08/03/2015 10:42
3	MYRTL-IDW-GW-01	612629	08/03/2015 11:15

CT LABORATORIES
delivering more than data from your environmental analyses

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Sample ID:	614681	SDG No.:	112835
Matrix:	LIQUID	Date Extracted:	07/31/2015
Date Analyzed:	08/04/2015	Time Analyzed:	15:24
Analytical Method:	EPA 8270D	Extraction Method:	SW3510
Analytical Run #:	117414	Extraction Batch #:	53550
		ICAL Calibration #:	1S073115

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED
1	MBW	614681	08/04/2015 15:24
2	LCSW	614682	08/04/2015 16:04
3	MYRTL-IDW-SO-01	612627	08/04/2015 17:42
4	MYRTL-IDW-SO-01MSW	614684	08/04/2015 18:02

CT LABORATORIES
delivering more than data from your environmental analyses

4B

SEMIVOLATILE METHOD BLANK SUMMARY

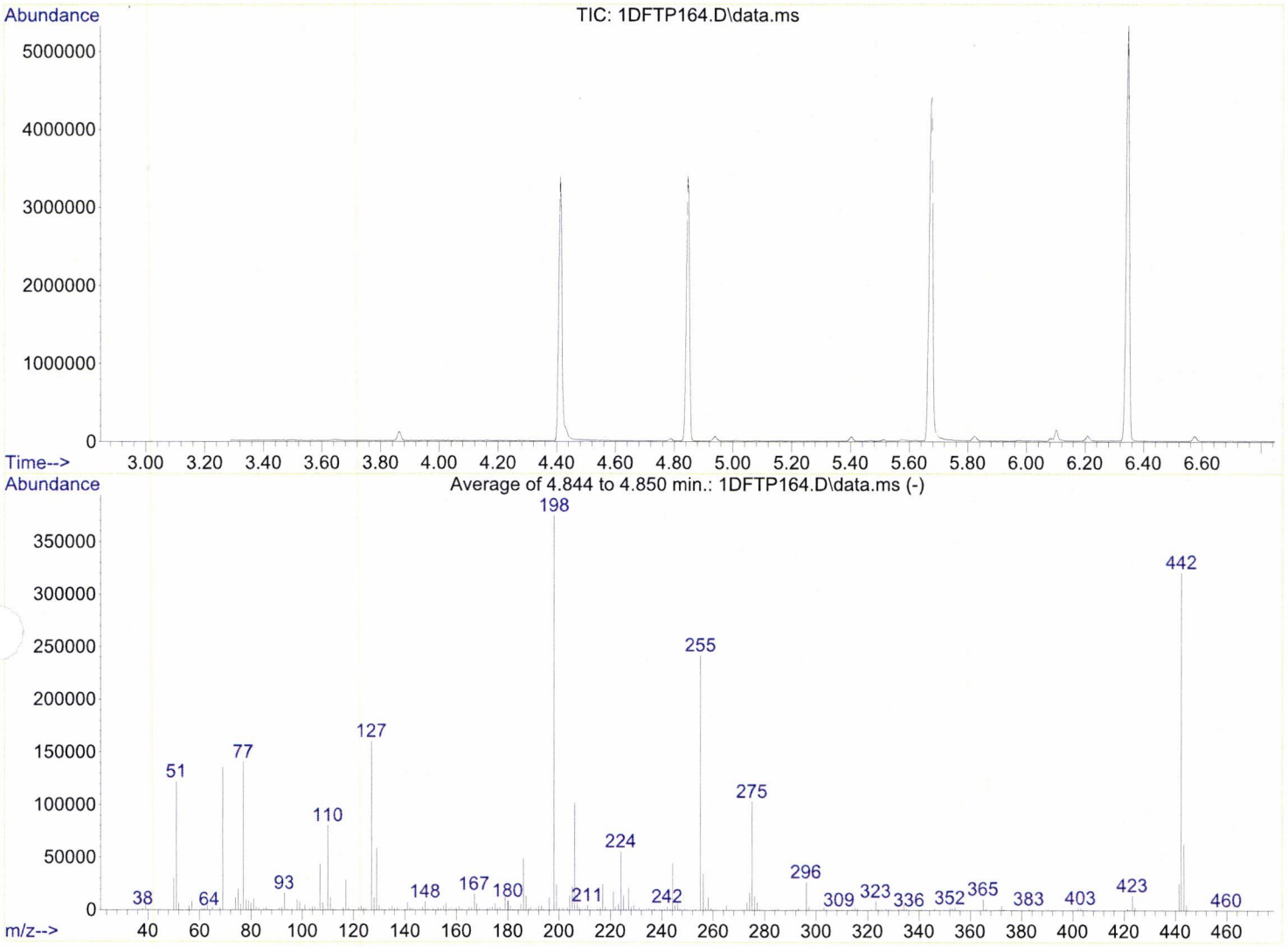
Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Sample ID:	615084	SDG No.:	112835
Matrix:	SOLID	Date Extracted:	07/30/2015
Date Analyzed:	08/05/2015	Time Analyzed:	22:33
Analytical Method:	EPA 8015C	Extraction Method:	SW3546
Analytical Run #:	117445	Extraction Batch #:	53557
		ICAL Calibration #:	

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED
1	MBS	615084	08/05/2015 22:33
2	LCSS	615085	08/05/2015 23:06
3	MYRTL-IDW-SO-01	612628	08/05/2015 23:39
4	MYRTL-IDW-SO-01MSS	615086	08/07/2015 13:09
5	MYRTL-IDW-SO-01MSDS	615087	08/07/2015 13:42

Data File : C:\INSTARCH\Data\1S073115\1DFTP164.D Vial: 1
Acq On : 31 Jul 2015 12:02 Operator: RPN
Sample : DFTPP TUNE SVMS6642 Inst : SVMS1
Misc : SVMS1,25 ug DFTPP Multiplr: 1.00
Integrator: RTE

Method : C:\INSTARCH\Methods\1S073115.M
Title : Method for 8270 analysis
Last Update : Mon Aug 03 09:17:48 2015



AutoFind: Scans 549, 550, 551; Background Corrected with Scan 540

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	32.4	121856	PASS
68	69	0.00	2	1.5	2070	PASS
70	69	0.00	2	0.4	532	PASS
127	198	10	80	42.7	160384	PASS
197	198	0.00	2	0.2	819	PASS
198	198	50	100	100.0	375573	PASS
199	198	5	9	6.4	24069	PASS
275	198	10	60	27.5	103157	PASS
365	198	1	100	2.8	10692	PASS
441	442	0.01	100	8.0	25709	PASS
442	198	50	100	85.4	320832	PASS
443	442	15	24	19.6	62834	PASS

Injection Log Summary Report

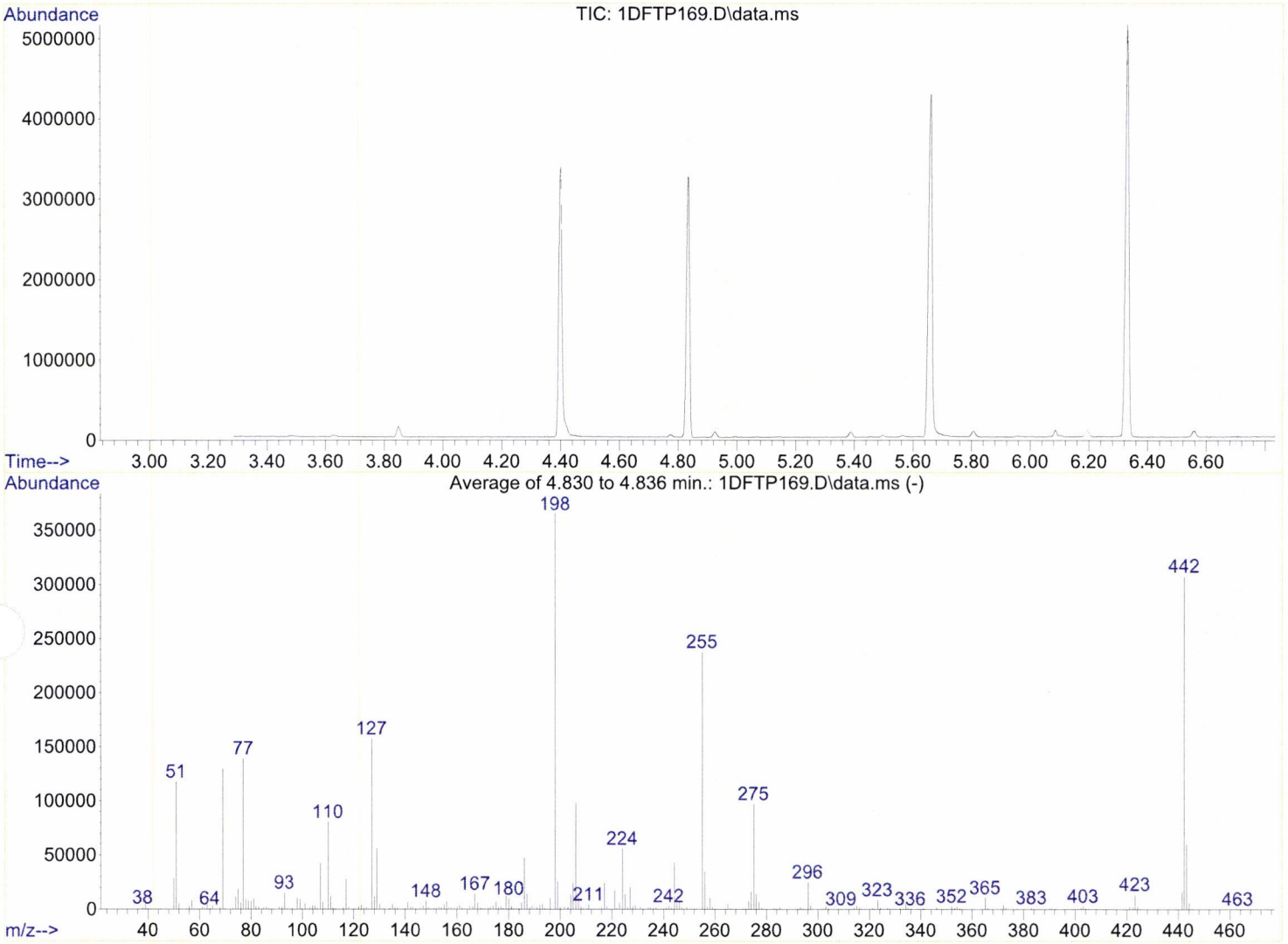
Method : Y:\METHODS\1S073115.M (RTE Integrator)
Title : Method for 8270 analysis
Start (Tune) File ID : Y:\DATA\1S073115\1DFTP164.D
Injection Date : 31 Jul 2015 Log Time Period (hrs) : ALL
Injection Time : 12:02 Total files within period : 22
Sample Directory : Y:\DATA\1S073115\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
1CCV226	1.00	1.00	1.00	CCV 20ug/ml SVMS6700 500uL+5ul IS S3306A	31 Jul 2015	12:47
1IB04	1.00	1.00	1.00	InstrumentBlank 500uL+5ul IS S3306C	31 Jul 2015	13:09
1ICAL7	1.00	1.00	1.00	ICAL 50ug/ml SVMS6697 500uL+5ul IS S3306A	31 Jul 2015	13:29
1ICAL6	1.00	1.00	1.00	ICAL 40ug/ml SVMS6696 500uL+5ul IS S3306A	31 Jul 2015	13:49
1ICAL5	1.00	1.00	1.00	ICAL 30ug/ml SVMS6695 500uL+5ul IS S3306A	31 Jul 2015	14:09
1ICAL4	1.00	1.00	1.00	ICAL 20ug/ml SVMS6694 500uL+5ul IS S3306A	31 Jul 2015	14:29
1ICAL3	1.00	1.00	1.00	ICAL 10ug/ml SVMS6693 500uL+5ul IS S3306A	31 Jul 2015	14:49
1ICAL2	1.00	1.00	1.00	ICAL 5ug/ml SVMS6692 500uL+5ul IS S3306A	31 Jul 2015	15:08
1ICAL1	1.00	1.00	1.00	ICAL 1ug/ml SVMS6691 500uL+5ul IS S3306A	31 Jul 2015	15:28
1ICV1	1.00	1.00	1.00	ICV 20ug/ml SVMS6698 500uL+5ul IS S3306A	31 Jul 2015	15:48
1ICV2	1.00	1.00	1.00	ICV 40ug/ml SVMS6699 500uL+5ul IS S3306A	31 Jul 2015	16:08

Data File : C:\INSTARCH\Data\1S080415\1DFTP169.D Vial: 1
Acq On : 4 Aug 2015 13:05 Operator: RPN
Sample : DFTPP TUNE SVMS6642 Inst : SVMS1
Misc : SVMS1,25 ug DFTPP Multiplr: 1.00
Integrator: RTE

od : C:\INSTARCH\METHODS\1S073115.M
e : Method for 8270 analysis
t Update : Wed Aug 05 10:17:26 2015



AutoFind: Scans 544, 545, 546; Background Corrected with Scan 534

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	32.1	117515	PASS
68	69	0.00	2	1.2	1528	PASS
70	69	0.00	2	0.6	819	PASS
127	198	10	80	43.0	157255	PASS
197	198	0.00	2	0.0	0	PASS
198	198	50	100	100.0	365525	PASS
199	198	5	9	7.1	25786	PASS
275	198	10	60	26.6	97149	PASS
365	198	1	100	2.9	10456	PASS
441	442	0.01	100	5.1	15720	PASS
442	198	50	100	84.1	307242	PASS
443	442	15	24	19.5	59850	PASS

Comment: 8270
Operator: RPN
Data Path: C:\INSTARCH\DATA\1S080415\
nstrument Control Pre-Seq Cmd:
ata Analysis Pre-Seq Cmd:

nstrument Control Post-Seq Cmd:
ata Analysis Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line			Sample Name/Misc Info	
1)	Sample	99	1IB01	1S073115 InstrumentBlank
2)	DFTPP	1	1DFTP167	1DFTPP DFTPP TUNE SVMS6642
3)	Sample	99	1IB02	1S073115 InstrumentBlank
4)	DFTPP	1	1DFTP168	1DFTPP DFTPP TUNE SVMS6642
5)	DFTPP	1	1DFTP169	1DFTPP DFTPP TUNE SVMS6642
6)	Sample	2	1CCV230	1S073115 CCV 20ug/ml SVMS6700
7)	Sample	3	1CCV231	1S073115 CCV 20ug/ml SVMS6736
8)	Sample	4	1MBW01R	1S073115 117219,MBW,
9)	Sample	5	1MBW02	1S073115 117412,MBW,
0)	Sample	6	1MBTV02	1S073115 117412,MBTV,
1)	Sample	7	1MBTS02	1S073115 117412,MBTS,
2)	Sample	8	1LCSW02	1S073115 117412,LCSW,
3)	Sample	9	611161	1S073115 117412,611161,
4)	Sample	10	611161MS	1S073115 117412,MSW611161,
5)	Sample	11	611163	1S073115 117412,611163,
6)	Sample	12	611170	1S073115 117412,611170,
7)	Sample	13	612627	1S073115 117414,612627,
8)	Sample	14	612627MS	1S073115 117414,MSW612627,
9)	Sample	15	1MBW03	1S073115 117310,MBW,
0)	Sample	16	1LCSW03	1S073115 117310,LCSW,
1)	Sample	17	612629	1S073115 117308,612629,
2)	Sample	18	612076	1S073115 117310,612076,
3)	Sample	19	612077	1S073115 117310,612077,
4)	Sample	20	612078	1S073115 117310,612078,
5)	Sample	21	612078MS	1S073115 117310,MSW612078,
6)	Sample	22	612078SD	1S073115 117310,MSDW612078,
7)	Sample	23	612079	1S073115 117310,612079,
8)	Sample	24	612080	1S073115 117310,612080,
9)	Sample	25	614167	1S073115 117310,614167,
0)	Sample	26	614168	1S073115 117310,614168,
1)	Sample	27	614169	1S073115 117310,614169,
2)	Sample	28	614170	1S073115 117310,614170,
3)	Sample	21	612078SR	1S073115 117310,MSW612078,
4)	Sample	22	612078DR	1S073115 117310,MSDW612078,
5)	Sample	2	1CCV232	1S073115 CCV 20ug/ml SVMS6700
6)	Sample	3	1CCV233	1S073115 CCV 20ug/ml SVMS6736
7)	DFTPP	1	1DFTP170	1DFTPP DFTPP TUNE SVMS6642
8)	DFTPP	1	1DFTP171	1DFTPP DFTPP TUNE SVMS6642
9)	Sample	2	1CCV234	1S073115 CCV 20ug/ml SVMS6700
0)	Sample	9	611161D	1S073115 117412,611161,2
1)	Sample	10	611161SR	1S073115 117412,MSW611161,2
2)	Sample	11	611163D	1S073115 117412,611163,2
3)	Sample	99	1IB03	1S073115 InstrumentBlank

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : Contract :
Project : Site : Location : Group :
File ID (Standard): 1ICAL4.D Date Analyzed : 31 Jul 2015
Document ID : SVMS1 Time Analyzed : 14:29
GC Column : ID : (mm) Heated Purge (Y:N) :

	IS1 (DCB)		IS2 (NPT)		IS3 (ANT)	
	Area #	RT #	Area #	RT #	Area #	RT #
12 HOUR STD	215339	3.56	783049	5.14	441109	6.94
UPPER LIMIT	430678	4.06	1566098	5.64	882218	7.44
LOWER LIMIT	107670	3.06	391525	4.64	220555	6.44
File ID Sample						
1CCV230 CCV 20ug/	210714	3.56	762841	5.13	430235	6.93
1CCV231 CCV 20ug/	237443	3.55	893911	5.12	527694	6.93
1CCV232 CCV 20ug/	257572	3.55	919722	5.13	514215	6.93
1CCV233 CCV 20ug/	249726	3.55	946660	5.12	549087	6.92
1CCV234 CCV 20ug/	266981	3.55	933582	5.13	524844	6.93
1LCSW02 117412,LC	234216	3.55	841835	5.12	480263	6.93
1LCSW03 117310,LC	242945	3.55	883326	5.12	503715	6.93
1MBTS02 117412,MB	262510	3.55	983093	5.12	573439	6.93
1MBTV02 117412,MB	255197	3.55	931592	5.12	561097	6.92
1MBW01R 117219,MB	216676	3.55	828044	5.12	500527	6.92
1MBW02 117412,MB	252691	3.55	954668	5.12	557079	6.92
1MBW03 117310,MB	247021	3.55	927181	5.12	547333	6.92
610981R 117218,61	239868	3.55	907325	5.12	521573	6.92
611161 117412,61	223986	3.55	868996	5.12	490671	6.93
611161D 117412,61	233978	3.55	872079	5.12	515492	6.92
611161MS 117412,MS	228577	3.56	862304	5.13	482988	6.93
611161SR 117412,MS	242430	3.55	921211	5.12	516646	6.93
611163 117412,61	222321	3.55	841142	5.12	485523	6.92
611163D 117412,61	226334	3.55	858972	5.12	505368	6.92
611170 117412,61	264646	3.55	981879	5.12	579038	6.92
612076 117310,61	253903	3.55	964756	5.12	575055	6.92
612077 117310,61	257711	3.55	970939	5.12	576043	6.92
612078 117310,61	263888	3.55	983403	5.12	594489	6.92
612078DR 117310,MS	256664	3.55	940892	5.12	532047	6.93
612078MS 117310,MS	248801	3.55	904948	5.12	513436	6.93

IS1 (DCB) = 14Diclbenzd4
IS2 (NPT) = Naphthalened8
IS3 (ANT) = Acenaphthened10

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = 0.5 minutes of internal standard RT
RT LOWER LIMIT = -0.5 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk
* Values outside of contract required QC limits

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : Contract :
Project : Site : Location : Group :
Lab File ID (Standard): 1ICAL4.D Date Analyzed : 31 Jul 2015
Instrument ID : SVMS1 Time Analyzed : 14:29
GC Column : ID : (mm) Heated Purge (Y:N) :

	IS1 (DCB)		IS2 (NPT)		IS3 (ANT)	
	Area #	RT #	Area #	RT #	Area #	RT #
12 HOUR STD	215339	3.56	783049	5.14	441109	6.94
UPPER LIMIT	430678	4.06	1566098	5.64	882218	7.44
LOWER LIMIT	107670	3.06	391525	4.64	220555	6.44
File ID Sample						
612078SD 117310,MS	253882	3.55	919365	5.12	524465	6.93
612078SR 117310,MS	249769	3.55	909338	5.12	519518	6.93
612079 117310,61	259990	3.55	961602	5.12	577208	6.92
612080 117310,61	263265	3.55	991561	5.12	598826	6.92
612627 117414,61	262280	3.55	990604	5.12	578521	6.93
612627MS 117414,MS	250232	3.55	902526	5.12	508322	6.93
612629 117308,61	267296	3.55	972147	5.12	544841	6.92
614167 117310,61	262436	3.55	957157	5.12	577743	6.92
614168 117310,61	263724	3.55	990291	5.12	584603	6.92
614169 117310,61	263061	3.55	984716	5.12	583838	6.92
614170 117310,61	259396	3.55	974247	5.12	584208	6.92

IS1 (DCB) = 14Diclbenzd4
IS2 (NPT) = Naphthalened8
IS3 (ANT) = Acenaphthened10

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = 0.5 minutes of internal standard RT
RT LOWER LIMIT = -0.5 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk
* Values outside of contract required QC limits

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : Contract :
Project : Site : Location : Group :
File ID (Standard): 1ICAL4.D Date Analyzed : 31 Jul 2015
Instrument ID : SVMS1 Time Analyzed : 14:29
GC Column : ID : (mm) Heated Purge (Y:N) :

	IS4 (PHN)		IS5 (CRY)		IS6 (PRY)	
	Area #	RT #	Area #	RT #	Area #	RT #
12 HOUR STD	986501	7.89	753534	9.30	709483	10.15
UPPER LIMIT	1973002	8.39	1507068	9.80	1418966	10.65
LOWER LIMIT	493251	7.39	376767	8.80	354742	9.65
File ID Sample						
1CCV230 CCV 20ug/	976027	7.88	731292	9.30	701455	10.16
1CCV231 CCV 20ug/	1107101	7.88	934049	9.30	856177	10.16
1CCV232 CCV 20ug/	1155847	7.88	866091	9.30	852100	10.16
1CCV233 CCV 20ug/	1147762	7.88	974052	9.29	901679	10.15
1CCV234 CCV 20ug/	1204572	7.88	898173	9.30	882676	10.16
1LCSW02 117412,LC	1072118	7.88	819682	9.30	717632	10.15
1LCSW03 117310,LC	1121407	7.88	875079	9.30	755923	10.15
1MBTS02 117412,MB	1225485	7.88	962934	9.29	772533	10.15
1MBTV02 117412,MB	1189934	7.88	969731	9.30	792409	10.15
1MBW01R 117219,MB	1080336	7.88	866303	9.30	703530	10.16
1MBW02 117412,MB	1192359	7.88	991660	9.30	788975	10.16
1MBW03 117310,MB	1170472	7.88	961268	9.30	793375	10.15
610981R 117218,61	1136386	7.88	941364	9.29	768428	10.15
611161 117412,61	1061431	7.88	924619	9.30	774320	10.16
611161D 117412,61	1126531	7.88	956493	9.30	795283	10.15
611161MS 117412,MS	945490	7.88	845419	9.30	748405	10.16
161SR 117412,MS	1148714	7.88	949482	9.30	811992	10.15
63 117412,61	904974	7.88	905086	9.30	764751	10.15
163D 117412,61	1088281	7.88	954570	9.29	803397	10.15
611170 117412,61	1205909	7.88	989042	9.30	809213	10.15
612076 117310,61	1211941	7.88	985986	9.30	807387	10.15
612077 117310,61	1229141	7.88	1002379	9.29	839667	10.15
612078 117310,61	1270836	7.88	1018837	9.30	834896	10.15
612078DR 117310,MS	1216794	7.88	943826	9.30	819731	10.15
612078MS 117310,MS	1151005	7.88	891878	9.30	777184	10.16

IS4 (PHN) = Phenanthrd10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = 0.5 minutes of internal standard RT
RT LOWER LIMIT = -0.5 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk
* Values outside of contract required QC limits

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : Contract :
Project : Site : Location : Group :
Lab File ID (Standard): 1ICAL4.D Date Analyzed : 31 Jul 2015
Instrument ID : SVMS1 Time Analyzed : 14:29
GC Column : ID : (mm) Heated Purge (Y:N) :

	IS4 (PHN)		IS5 (CRY)		IS6 (PRY)	
	Area #	RT #	Area #	RT #	Area #	RT #
12 HOUR STD	986501	7.89	753534	9.30	709483	10.15
UPPER LIMIT	1973002	8.39	1507068	9.80	1418966	10.65
LOWER LIMIT	493251	7.39	376767	8.80	354742	9.65
File ID Sample						
612078SD 117310,MS	1181362	7.88	918566	9.30	796510	10.15
612078SR 117310,MS	1141748	7.89	896777	9.30	789847	10.15
612079 117310,61	1231052	7.88	1011989	9.30	813837	10.15
612080 117310,61	1270220	7.88	1042592	9.29	859651	10.15
612627 117414,61	1247298	7.88	1021993	9.29	838857	10.15
612627MS 117414,MS	1141767	7.88	883181	9.30	761760	10.16
612629 117308,61	1155889	7.88	946619	9.30	793839	10.16
614167 117310,61	1247423	7.88	1025718	9.29	847903	10.15
614168 117310,61	1265483	7.88	1038461	9.29	840173	10.15
614169 117310,61	1248569	7.88	1031583	9.29	874923	10.15
614170 117310,61	1244416	7.88	1021950	9.30	874886	10.15

IS4 (PHN) = Phenanthrd10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = 0.5 minutes of internal standard RT
RT LOWER LIMIT = -0.5 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk
* Values outside of contract required QC limits

PESTICIDE
QUALITY CONTROL SUMMARY
DOCUMENTS

CT LABORATORIES
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1D-1

PESTICIDE ORGANICS ANALYSIS

Sample Description: **MYRTL-IDW-GW-01**

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	GROUND WATER	SDG No.:	112835
Sample wt/vol:	0.96 (g/L)	CTL Sample ID:	612629
% Solids:		Date Received:	07/27/2015
Conc. Extract Vol:	10 (mL)	Date/Time Prepared:	07/30/2015 / 10:00
Analytical Method:	EPA 8081B	Analytical Prep Batch #	53527
Analytical Run #:	117298	Dilution Factor:	1.00
Date & Time Analyzed:	08/10/2015 / 15:31		
Cleanup Date/Time/Type:	, 07/31/2015 09:00 (Sulfur) ,		,
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	080715pstic	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
72-54-8	4,4'-DDD	0.010	U	0.0063	0.010	0.025	0.025
72-55-9	4,4'-DDE	0.010	U	0.0063	0.010	0.042	0.042
50-29-3	4,4'-DDT	0.010	U	0.0073	0.010	0.025	0.025
309-00-2	Aldrin	0.0042	U	0.0020	0.0042	0.010	0.010
319-84-6	alpha-BHC	0.0083	J	0.0052	0.010	0.025	0.025
5103-71-9	alpha-Chlordane	0.010	U	0.0094	0.010	0.042	0.042
319-85-7	beta-BHC	0.010	U	0.0094	0.010	0.042	0.042
57-74-9	Chlordane (Technical)	0.21	U	0.11	0.21	0.63	0.63
319-86-8	delta-BHC	0.013	J	0.0052	0.010	0.025	0.025
60-57-1	Dieldrin	0.0042	U	0.0015	0.0042	0.010	0.010
959-98-8	Endosulfan I	0.065		0.0094	0.010	0.042	0.042
33213-65-9	Endosulfan II	0.010	U	0.0073	0.010	0.025	0.025
1031-07-8	Endosulfan sulfate	0.010	U	0.0063	0.010	0.025	0.025
72-20-8	Endrin	0.010	U	0.0063	0.010	0.025	0.025
7421-93-4	Endrin aldehyde	0.010	U	0.0094	0.010	0.042	0.042
53494-70-5	Endrin ketone	0.010	U	0.0073	0.010	0.025	0.025
5103-74-2	gamma-Chlordane	0.010	U	0.0073	0.010	0.025	0.025
76-44-8	Heptachlor	0.010	U	0.0063	0.010	0.025	0.025
1024-57-3	Heptachlor epoxide	0.010	U	0.0073	0.010	0.025	0.025
58-89-9	Lindane	0.010	U	0.0073	0.010	0.025	0.025
72-43-5	Methoxychlor	0.010	U	0.0063	0.010	0.042	0.042
8001-35-2	Toxaphene	0.21	U	0.18	0.21	0.63	0.63

CT LABORATORIES
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1D-1

PESTICIDE ORGANICS ANALYSIS

Sample Description: **MYRTL-IDW-SO-01**

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	TCLP	SDG No.:	112835
Sample wt/vol:	0.10 (g/L)	CTL Sample ID:	612627
% Solids:		Date Received:	07/27/2015
Conc. Extract Vol:	10 (mL)	Date/Time Prepared:	08/03/2015 / 08:30
Analytical Method:	EPA 8081B	Analytical Prep Batch #	53547
Analytical Run #:	117372	Dilution Factor:	1.00
Date & Time Analyzed:	08/04/2015 / 17:17		
Cleanup Date/Time/Type:	, 08/03/2015 17:00 (Sulfur) ,		,
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			07/30/2015 / 07:15
ICAL Calibration #:	080315pstxic	Concentration Units:	mg/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
5103-71-9	alpha-Chlordane	0.00010	U	0.000090	0.00010	0.00040	0.00040
57-74-9	Chlordane (Technical)	0.0030	U	0.0010	0.0030	0.0060	0.0060
72-20-8	Endrin	0.00010	U	0.000060	0.00010	0.00024	0.00024
5103-74-2	gamma-Chlordane	0.00010	U	0.000070	0.00010	0.00024	0.00024
76-44-8	Heptachlor	0.00010	U	0.000060	0.00010	0.00024	0.00024
1024-57-3	Heptachlor epoxide	0.00010	U	0.000070	0.00010	0.00024	0.00024
58-89-9	Lindane	0.00010	U	0.000070	0.00010	0.00024	0.00024
72-43-5	Methoxychlor	0.00010	U	0.000060	0.00010	0.00040	0.00040
8001-35-2	Toxaphene	0.0030	U	0.0018	0.0030	0.0060	0.0060

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Sample Description: **METHOD BLANK**

PESTICIDE ORGANICS ANALYSIS (MB)

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:		SDG No.:	112835
Sample wt/vol:	1.00 (g/L)	CTL Sample ID:	614488
% Solids:		Date Received:	07/27/2015
Conc. Extract Vol:	10 (mL)	Date/Time Prepared:	07/30/2015 / 10:00
Analytical Method:	EPA 8081B	Analytical Prep Batch #	53527
Analytical Run #:	117298	Dilution Factor:	ug/L
Cleanup Date/Time/Type:	07/31/2015 09:00 (Sulfur)		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	080715pstic	Concentration Units:	MBW

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
72-54-8	4,4'-DDD	07/31/2015	09:14	0.006	U	0.006	0.024	***0.012***
72-55-9	4,4'-DDE	07/31/2015	09:14	0.006	U	0.006	0.040	***0.020***
50-29-3	4,4'-DDT	07/31/2015	09:14	0.007	U	0.007	0.024	***0.012***
309-00-2	Aldrin	07/31/2015	09:14	0.0019	U	0.0019	0.0100	***0.005***
319-84-6	alpha-BHC	07/31/2015	09:14	0.005	U	0.005	0.024	***0.012***
5103-71-9	alpha-Chlordane	07/31/2015	09:14	0.009	U	0.009	0.040	***0.020***
319-85-7	beta-BHC	07/31/2015	09:14	0.009	U	0.009	0.040	***0.020***
57-74-9	Chlordane (Technical)	07/31/2015	09:14	0.102	U	0.102	0.600	***0.300***
319-86-8	delta-BHC	07/31/2015	09:14	0.005	U	0.005	0.024	***0.012***
60-57-1	Dieldrin	07/31/2015	09:14	0.0014	U	0.0014	0.0100	***0.0050***
959-98-8	Endosulfan I	07/31/2015	09:14	0.009	U	0.009	0.040	***0.020***
33213-65-9	Endosulfan II	07/31/2015	09:14	0.007	U	0.007	0.024	***0.012***
1031-07-8	Endosulfan sulfate	07/31/2015	09:14	0.006	U	0.006	0.024	***0.012***
72-20-8	Endrin	07/31/2015	09:14	0.006	U	0.006	0.024	***0.012***
7421-93-4	Endrin aldehyde	07/31/2015	09:14	0.009	U	0.009	0.040	***0.020***
53494-70-5	Endrin ketone	07/31/2015	09:14	0.007	U	0.007	0.024	***0.012***
5103-74-2	gamma-Chlordane	07/31/2015	09:14	0.007	U	0.007	0.024	***0.012***
76-44-8	Heptachlor	07/31/2015	09:14	0.006	U	0.006	0.024	***0.012***
1024-57-3	Heptachlor epoxide	07/31/2015	09:14	0.007	U	0.007	0.024	***0.012***
58-89-9	Lindane	07/31/2015	09:14	0.007	U	0.007	0.024	***0.012***
72-43-5	Methoxychlor	07/31/2015	09:14	0.006	U	0.006	0.040	***0.020***
8001-35-2	Toxaphene	07/31/2015	09:14	0.176	U	0.176	0.600	***0.300***

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1D-3

Sample Description: **METHOD BLANK**

PESTICIDE ORGANICS ANALYSIS (MB)

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:		SDG No.:	112835
Sample wt/vol:	1.00 (g/L)	CTL Sample ID:	614673
% Solids:		Date Received:	07/27/2015
Conc. Extract Vol:	10 (mL)	Date/Time Prepared:	08/03/2015 / 08:30
Analytical Method:	EPA 8081B	Analytical Prep Batch #	53547
Analytical Run #:	117372	Dilution Factor:	mg/L
Cleanup Date/Time/Type:	08/03/2015 17:00 (Sulfur)		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			07/30/2015 / 07:15
ICAL Calibration #:	080315pstxic	Concentration Units:	MBW

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
5103-71-9	alpha-Chlordane	08/04/2015	12:54	0.000009	U	0.000009	0.000040	***0.000020***
57-74-9	Chlordane (Technical)	08/04/2015	12:54	0.000102	U	0.000102	0.00050	***0.00025***
72-20-8	Endrin	08/04/2015	12:54	0.000006	U	0.000006	0.000024	***0.000012***
5103-74-2	gamma-Chlordane	08/04/2015	12:54	0.000007	U	0.000007	0.000040	***0.000020***
76-44-8	Heptachlor	08/04/2015	12:54	0.000006	U	0.000006	0.000024	***0.000012***
1024-57-3	Heptachlor epoxide	08/04/2015	12:54	0.000007	U	0.000007	0.000024	***0.000012***
58-89-9	Lindane	08/04/2015	12:54	0.000007	U	0.000007	0.000024	***0.000012***
72-43-5	Methoxychlor	08/04/2015	12:54	0.000006	U	0.000006	0.000040	***0.000020***
8001-35-2	Toxaphene	08/04/2015	12:54	0.000176	U	0.000176	0.00050	***0.00025***

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2E-1

WATER PESTICIDE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CT Laboratories | Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Analytical Method: EPA 8081B | SDG: 112835

Analytical Run #: 117298 | ICAL Calibration #: 080715pstic

GC Column(1): Restek RTX ID: 0.32 (mm) | GC Column(2): Restek RTX C2 ID: 0.32 (mm)

CTLab #	612076				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR:2,4,5,6-CL4-m-xylene	100	76	44	124	
SURR:Decachlorobiphenyl	100	79	39	146	
CTLab #	**612077**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR:2,4,5,6-CL4-m-xylene	100	75	44	124	
SURR:Decachlorobiphenyl	100	93	39	146	
CTLab #	**612078**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR:2,4,5,6-CL4-m-xylene	100	77	44	124	
SURR:Decachlorobiphenyl	100	91	39	146	
CTLab #	**612079**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR:2,4,5,6-CL4-m-xylene	100	74	44	124	
SURR:Decachlorobiphenyl	100	86	39	146	
CTLab #	**612080**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR:2,4,5,6-CL4-m-xylene	100	78	44	124	
SURR:Decachlorobiphenyl	100	90	39	146	
CTLab #	**612629**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR:2,4,5,6-CL4-m-xylene	100	90	44	124	
SURR:Decachlorobiphenyl	100	28	39	146	*FAIL*
CTLab #	**614167**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR:2,4,5,6-CL4-m-xylene	100	93	44	124	
SURR:Decachlorobiphenyl	100	80	39	146	
CTLab #	**614168**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR:2,4,5,6-CL4-m-xylene	100	79	44	124	
SURR:Decachlorobiphenyl	100	80	39	146	
CTLab #	**614169**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR:2,4,5,6-CL4-m-xylene	100	75	44	124	
SURR:Decachlorobiphenyl	100	82	39	146	
CTLab #	**614170**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR:2,4,5,6-CL4-m-xylene	100	81	44	124	
SURR:Decachlorobiphenyl	100	80	39	146	

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2E-1

WATER PESTICIDE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CT Laboratories | Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Analytical Method: EPA 8081B | SDG: 112835

Analytical Run #: 117298 | ICAL Calibration #: 080715pstic

GC Column(1): Restek RTX ID: 0.32 (mm) | GC Column(2): Restek RTX C2 ID: 0.32 (mm)

CTLab #	614488	Sample Type:	Method Blank		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR:2,4,5,6-CL4-m-xylene		68.6	44	124	
SURR:Decachlorobiphenyl		88.8	39	146	
CTLab #	**614489**	Sample Type:	Lab Control Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR:2,4,5,6-CL4-m-xylene	100	77.2	44	124	
SURR:Decachlorobiphenyl	100	91.5	39	146	
CTLab #	**614491**	Sample Type:	Matrix Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR:2,4,5,6-CL4-m-xylene	100	77.6	44	124	
SURR:Decachlorobiphenyl	100	85.8	39	146	
CTLab #	**614492**	Sample Type:	Matrix Spike Duplicate		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR:2,4,5,6-CL4-m-xylene	100	77.0	44	124	
SURR:Decachlorobiphenyl	100	88.9	39	146	

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WATER PESTICIDE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CT Laboratories | Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Analytical Method: EPA 8081B | SDG: 112835

Analytical Run #: 117372 | ICAL Calibration #: 080315pstxic

GC Column(1): Restek RTX ID: 0.32 (mm) | GC Column(2): Restek RTX C2 ID: 0.32 (mm)

CTLab #	611161				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR:2,4,5,6-CL4-m-xylene	100	73	25	140	
SURR:Decachlorobiphenyl	100	92	30	135	
CTLab #	**611163**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR:2,4,5,6-CL4-m-xylene	100	66	25	140	
SURR:Decachlorobiphenyl	100	92	30	135	
CTLab #	**611170**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR:2,4,5,6-CL4-m-xylene	100	78	25	140	
SURR:Decachlorobiphenyl	100	98	30	135	
CTLab #	**612627**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR:2,4,5,6-CL4-m-xylene	100	84	25	140	
SURR:Decachlorobiphenyl	100	105	30	135	
CTLab #	**614673**	Sample Type:		Method Blank	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR:2,4,5,6-CL4-m-xylene	100	85.7	25	140	
SURR:Decachlorobiphenyl	100	91.8	30	135	
CTLab #	**614674**	Sample Type:		Lab Control Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR:2,4,5,6-CL4-m-xylene	100	78.8	25	140	
SURR:Decachlorobiphenyl	100	84.3	30	135	
CTLab #	**614676**	Sample Type:		Matrix Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR:2,4,5,6-CL4-m-xylene	100	80.2	25	140	
SURR:Decachlorobiphenyl	100	102	30	135	
CTLab #	**614677**	Sample Type:		Matrix Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
SURR:2,4,5,6-CL4-m-xylene	100	66.4	25	140	
SURR:Decachlorobiphenyl	100	87.6	30	135	

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3E

Sample Description

MYRTL-IDW-SO-01

WATER PESTICIDE MATRIX SPIKE RECOVERY

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: TCLP SDG No.: 112835

Analytical Method: EPA 8081B Concentration Units: mg/L

Analytical Run #: 117372 Sample No.: 614677 Parent Sample No.: 612627

Analytical Prep Batch #: 53547 Analytical Preparation Date/Time: 08/03/2015 08:30

ICAL Calibration #: 080315pstxic

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
alpha-Chlordane	08/04/2015	18:44	65-125	0.00353	BDL	0.00400	88
Endrin	08/04/2015	18:44	55-135	0.00398	BDL	0.00400	100
gamma-Chlordane	08/04/2015	18:44	60-125	0.00353	BDL	0.00400	88
Heptachlor	08/04/2015	18:44	40-130	0.00365	BDL	0.00400	91
Heptachlor epoxide	08/04/2015	18:44	60-130	0.00369	BDL	0.00400	92
Lindane	08/04/2015	18:44	25-135	0.00408	BDL	0.00400	102
Methoxychlor	08/04/2015	18:44	55-150	0.00429	BDL	0.00400	107

Spike Recovery: 0 out of 7 outside QC limits

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3E

Sample Description: LCS

WATER PESTICIDE LAB CONTROL SAMPLE

Lab Name: CT Laboratories
Contract: AMEC FOSTER WHEELER-MYRTLE BEACH
Sample No.: 614489
SDG No.: 112835
Analytical Method: EPA 8081B
Concentration Units: ug/L

Sample No.: 614489
Parent Sample No.: 0
Analytical Prep Batch #: 53527
Analytical Preparation Date/Time: 07/30/2015 10:00
Analytical Run #: 117298
ICAL Calibration #: 072215pstxic

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
4,4'-DDD	07/31/2015	09:39	56-143	0.372		0.400	93
4,4'-DDE	07/31/2015	09:39	57-135	0.385		0.400	96
4,4'-DDT	07/31/2015	09:39	51-143	0.322		0.400	80
Aldrin	07/31/2015	09:39	45-134	0.329		0.400	82
alpha-BHC	07/31/2015	09:39	54-138	0.344		0.400	86
alpha-Chlordane	07/31/2015	09:39	60-129	0.380		0.400	95
beta-BHC	07/31/2015	09:39	56-136	0.353		0.400	88
delta-BHC	07/31/2015	09:39	52-142	0.378		0.400	94
Dieldrin	07/31/2015	09:39	60-136	0.378		0.400	94
Endosulfan I	07/31/2015	09:39	62-136	0.386		0.400	96
Endosulfan II	07/31/2015	09:39	52-135	0.382		0.400	96
Endosulfan sulfate	07/31/2015	09:39	62-133	0.382		0.400	96
Endrin	07/31/2015	09:39	60-138	0.323		0.400	81
Endrin aldehyde	07/31/2015	09:39	51-132	0.373		0.400	93
Endrin ketone	07/31/2015	09:39	58-134	0.379		0.400	95
gamma-Chlordane	07/31/2015	09:39	56-136	0.375		0.400	94
Heptachlor	07/31/2015	09:39	54-130	0.326		0.400	82
Heptachlor epoxide	07/31/2015	09:39	61-133	0.378		0.400	94
Lindane	07/31/2015	09:39	59-134	0.341		0.400	85
Methoxychlor	07/31/2015	09:39	54-145	0.338		0.400	84

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Chlordane (Technical)	07/31/2015	10:04	62-140	2.38		2.50	95
Toxaphene	07/31/2015	10:04	33-134	2.18		2.50	87

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3E

Sample Description

LCS

WATER PESTICIDE LAB CONTROL SAMPLE

Lab Name:	CT Laboratories	Contract	AMEC FOSTER WHEELER-MYRTLE BEACH
Sample No.:	614489	SDG No.:	112835
Analytical Method:	EPA 8081B	Concentration Units:	ug/L

Spike Recovery: 0 out of 22 outside limits

CT LABORATORIES
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3E

Sample Description

LCS

WATER PESTICIDE LAB CONTROL SAMPLE

Lab Name: CT Laboratories
Contract: AMEC FOSTER WHEELER-MYRTLE BEACH
Sample No.: 614674
SDG No.: 112835
Analytical Method: EPA 8081B
Concentration Units: mg/L

Sample No.: 614674
Parent Sample No.: 0
Analytical Prep Batch #: 53547
Analytical Preparation Date/Time: 08/03/2015 08:30
Analytical Run #: 117372
ICAL Calibration #: 080315pstxic

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
alpha-Chlordane	08/04/2015	13:23	65-125	0.000381		0.00040	95
Endrin	08/04/2015	13:23	55-135	0.000395		0.00040	99
gamma-Chlordane	08/04/2015	13:23	60-125	0.000379		0.00040	95
Heptachlor	08/04/2015	13:23	40-130	0.000348		0.00040	87
Heptachlor epoxide	08/04/2015	13:23	60-130	0.000378		0.00040	94
Lindane	08/04/2015	13:23	25-135	0.000367		0.00040	92
Methoxychlor	08/04/2015	13:23	55-150	0.000429		0.00040	107

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Chlordane (Technical)	08/04/2015	13:52	50-150	0.00248		0.00250	99
Toxaphene	08/04/2015	13:52	50-150	0.00269		0.00250	108

Spike Recovery: 0 out of 9 outside limits

CT Laboratories

4C-1

PESTICIDE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Sample ID:	614488	SDG No.:	112835
Matrix:	LIQUID	Date Extracted:	07/30/2015
Date Analyzed:	07/31/2015	Time Analyzed:	09:14
Analytical Method:	EPA 8081B	Extraction Method:	SW3510
Analytical Run #:	117298	Extraction Batch #:	53527
		ICAL Calibration #:	072215pstxic

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED
1	MYRTL-IDW-GW-01	612629	08/10/2015 15:31
2	MBW	614488	07/31/2015 09:14
3	LCSW	614489	07/31/2015 09:39
4	LCSW	614489	07/31/2015 10:04
5	AHK3030MSW	614491	07/31/2015 11:44
6	AHK3030MSDW	614492	07/31/2015 12:09

CT Laboratories

4C-1

PESTICIDE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Sample ID:	614673	SDG No.:	112835
Matrix:	LIQUID	Date Extracted:	08/03/2015
Date Analyzed:	08/04/2015	Time Analyzed:	12:54
Analytical Method:	EPA 8081B	Extraction Method:	SW3510
Analytical Run #:	117372	Extraction Batch #:	53547
		ICAL Calibration #:	080315pstxic

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED
1	MYRTL-IDW-SO-01	612627	08/04/2015 17:17
2	MBW	614673	08/04/2015 12:54
3	LCSW	614674	08/04/2015 13:23
4	LCSW	614674	08/04/2015 13:52
5	WASTE-03-072215MSW	614676	08/04/2015 18:15
6	MYRTL-IDW-SO-01MSW	614677	08/04/2015 18:44

POLYCHLORINATED BIPHENYL QUALITY CONTROL SUMMARY DOCUMENTS

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1D-2

PCB ORGANICS ANALYSIS

Sample Description

MYRTL-IDW-GW-01

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	GROUND WATER	SDG No.:	112835
Sample wt/vol:	0.96 (g/L)	CTL Sample ID:	612629
% Solids:		Date Received:	07/27/2015
Conc. Extract Vol:	10 (mL)	Date/Time Prepared:	07/30/2015 / 10:00
Analytical Method:	EPA 8082A	Analytical Prep Batch #	53526
Analytical Run #:	117299	Dilution Factor:	1.00
Date & Time Analyzed:	07/31/2015 / 13:35		
Cleanup Date/Time/Type:	, 07/31/2015 09:30 (Sulfur) , 07/31/2015 09:00 (Acid) ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	062215pcbic	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
12674-11-2	Aroclor-1016	0.31	U	0.12	0.31	1.0	1.0
11104-28-2	Aroclor-1221	0.31	U	0.089	0.31	1.0	1.0
11141-16-5	Aroclor-1232	0.31	U	0.15	0.31	1.0	1.0
53469-21-9	Aroclor-1242	0.31	U	0.10	0.31	1.0	1.0
12672-29-6	Aroclor-1248	0.31	U	0.092	0.31	1.0	1.0
11097-69-1	Aroclor-1254	0.31	U	0.098	0.31	1.0	1.0
11096-82-5	Aroclor-1260	0.31	U	0.10	0.31	1.0	1.0
37324-23-5	Aroclor-1262	0.31	U	0.29	0.31	1.0	1.0
11100-14-4	Aroclor-1268	0.31	U	0.058	0.31	1.0	1.0

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1D-2

PCB ORGANICS ANALYSIS

Sample Description

MYRTL-IDW-SO-01

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	SOIL	SDG No.:	112835
Sample wt/vol:	9.98 (g/L)	CTL Sample ID:	612628
% Solids:	86.2	Date Received:	07/27/2015
Conc. Extract Vol:	10 (mL)	Date/Time Prepared:	07/30/2015 / 14:52
Analytical Method:	EPA 8082A	Analytical Prep Batch #	53525
Analytical Run #:	117473	Dilution Factor:	1.00
Date & Time Analyzed:	08/07/2015 / 20:45		
Cleanup Date/Time/Type:	,	,	,
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	080715PCBIC	Concentration Units:	ug/kg

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
12674-11-2	Aroclor-1016	23	U	5.8	23	35	35
11104-28-2	Aroclor-1221	23	U	8.1	23	35	35
11141-16-5	Aroclor-1232	23	U	10	23	35	35
53469-21-9	Aroclor-1242	23	U	8.1	23	35	35
12672-29-6	Aroclor-1248	23	U	8.1	23	35	35
11097-69-1	Aroclor-1254	23	U	10	23	35	35
11096-82-5	Aroclor-1260	23	U	7.0	23	35	35
37324-23-5	Aroclor-1262	23	U	8.1	23	35	35
11100-14-4	Aroclor-1268	23	U	5.8	23	35	35

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1D-4

Sample Description: **METHOD BLANK**

PCB ORGANICS ANALYSIS (MB)

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:		SDG No.:	112835
Sample wt/vol:	1.00 (g/L)	CTL Sample ID:	614478
% Solids:		Date Received:	07/27/2015
Conc. Extract Vol:	10 (mL)	Date/Time Prepared:	07/30/2015 / 10:00
Analytical Method:	EPA 8082A	Analytical Prep Batch #	53526
Analytical Run #:	117299	Dilution Factor:	ug/L
Cleanup Date/Time/Type:	. 07/31/2015 09:30 (Sulfur) . 07/31/201509:00 (Acid) ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	062215pcbic	Concentration Units:	MBW

CAS NO.	Analyte	Analysis Date/Time	Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
12674-11-2	Aroclor-1016	08/03/2015 10:15	0.113	U	0.113	1.0	***0.50***
11104-28-2	Aroclor-1221	08/03/2015 10:15	0.085	U	0.085	1.0	***0.50***
11141-16-5	Aroclor-1232	08/03/2015 10:15	0.145	U	0.145	1.0	***0.50***
53469-21-9	Aroclor-1242	08/03/2015 10:15	0.096	U	0.096	1.0	***0.50***
12672-29-6	Aroclor-1248	08/03/2015 10:15	0.088	U	0.088	1.0	***0.50***
11097-69-1	Aroclor-1254	08/03/2015 10:15	0.094	U	0.094	1.0	***0.50***
11096-82-5	Aroclor-1260	08/03/2015 10:15	0.099	U	0.099	1.0	***0.50***
37324-23-5	Aroclor-1262	08/03/2015 10:15	0.28	U	0.28	1.0	***0.50***
11100-14-4	Aroclor-1268	08/03/2015 10:15	0.056	U	0.056	1.0	***0.50***

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1D-4

Sample Description: **METHOD BLANK**

PCB ORGANICS ANALYSIS (MB)

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:		SDG No.:	112835
Sample wt/vol:	10.00 (g/L)	CTL Sample ID:	614482
% Solids:		Date Received:	07/27/2015
Conc. Extract Vol:	10 (mL)	Date/Time Prepared:	07/30/2015 / 14:52
Analytical Method:	EPA 8082A	Analytical Prep Batch #	53525
Analytical Run #:	117473	Dilution Factor:	ug/kg
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	080715PCBIC	Concentration Units:	MBS

CAS NO.	Analyte	Analysis Date/Time	Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
12674-11-2	Aroclor-1016	08/07/2015 20:02	5	U	5	30	***15***
11104-28-2	Aroclor-1221	08/07/2015 20:02	7	U	7	30	***15***
11141-16-5	Aroclor-1232	08/07/2015 20:02	9	U	9	30	***15***
53469-21-9	Aroclor-1242	08/07/2015 20:02	7	U	7	30	***15***
12672-29-6	Aroclor-1248	08/07/2015 20:02	7	U	7	30	***15***
11097-69-1	Aroclor-1254	08/07/2015 20:02	9	U	9	30	***15***
11096-82-5	Aroclor-1260	08/07/2015 20:02	6	U	6	30	***15***
37324-23-5	Aroclor-1262	08/07/2015 20:02	7	U	7	30	***15***
11100-14-4	Aroclor-1268	08/07/2015 20:02	5	U	5	30	***15***

CT LABORATORIES
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2E-1

WATER PCB SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CT Laboratories | Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Analytical Method: EPA 8082A | SDG: 112835

Analytical Run #: 117299 | ICAL Calibration #: 062215pcbic

GC Column(1): Restek RTX ID: 0.32 (mm) | GC Column(2): Restek RTX C2 ID: 0.32 (mm)

CTLab #	612076				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX	100	79	38	137	
Surr: DCBP	100	81	23	147	
CTLab #	**612077**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX	100	77	38	137	
Surr: DCBP	100	95	23	147	
CTLab #	**612078**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX	100	79	38	137	
Surr: DCBP	100	93	23	147	
CTLab #	**612079**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX	100	81	38	137	
Surr: DCBP	100	93	23	147	
CTLab #	**612080**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX	100	80	38	137	
Surr: DCBP	100	94	23	147	
CTLab #	**612629**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX	100	54	38	137	
Surr: DCBP	100	27	23	147	
CTLab #	**614167**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX	100	84	38	137	
Surr: DCBP	100	88	23	147	
CTLab #	**614168**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX	100	77	38	137	
Surr: DCBP	100	92	23	147	
CTLab #	**614169**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX	100	73	38	137	
Surr: DCBP	100	94	23	147	
CTLab #	**614170**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX	100	78	38	137	
Surr: DCBP	100	90	23	147	

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2E-1

WATER PCB SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CT Laboratories | Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Analytical Method: EPA 8082A | SDG: 112835

Analytical Run #: 117299 | ICAL Calibration #: 062215pcbic

GC Column(1): Restek RTX ID: 0.32 (mm) | GC Column(2): Restek RTX C2 ID: 0.32 (mm)

CTLab #	614478	Sample Type:		Method Blank	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX		77.5	38	137	
Surr: DCBP		86.2	23	147	
CTLab #	**614479**	Sample Type:		Lab Control Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX	100	74.1	38	137	
Surr: DCBP	100	79.6	23	147	
CTLab #	**614481**	Sample Type:		Matrix Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX	100	75.9	38	137	
Surr: DCBP	100	88.7	23	147	
CTLab #	**614485**	Sample Type:		Matrix Spike Duplicate	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX	100	76.5	38	137	
Surr: DCBP	100	92.8	23	147	
CTLab #	**616319**	Sample Type:		Normal Field Sample	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX	100	98.6	80	120	
Surr: DCBP	100	96.2	80	120	
CTLab #	**616320**	Sample Type:		Normal Field Sample	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX	100	103	80	120	
Surr: DCBP	100	102	80	120	
CTLab #	**616321**	Sample Type:		Normal Field Sample	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX	100	103	80	120	
Surr: DCBP	100	110	80	120	
CTLab #	**616322**	Sample Type:		Normal Field Sample	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX	100	103	80	120	
Surr: DCBP	100	104	80	120	
CTLab #	**616323**	Sample Type:		Normal Field Sample	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX	100	103	80	120	
Surr: DCBP	100	105	80	120	
CTLab #	**616324**	Sample Type:		Normal Field Sample	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX	100	105	80	120	
Surr: DCBP	100	111	80	120	

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2F-1

SOIL PCB SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CT Laboratories | Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Analytical Method: EPA 8082A | SDG: 112835

Analytical Run #: 117473 | ICAL Calibration #: 080715PCBIC

GC Column(1): Restek RTX ID: 0.32 (mm) | GC Column(2): Restek RTX C2 ID: 0.32 (mm)

CTLab #	612628				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX	100	87	44	130	
Surr: DCBP	100	93	54	141	

CTLab #	614482	Sample Type:		Method Blank	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX	100	90.3	44	130	
Surr: DCBP	100	102	54	141	

CTLab #	614483	Sample Type:		Lab Control Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX	100	96.9	44	130	
Surr: DCBP	100	103	54	141	

CTLab #	614486	Sample Type:		Matrix Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX	100	85.4	44	130	
Surr: DCBP	100	97.1	54	141	

CTLab #	614487	Sample Type:		Matrix Spike Duplicate	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
Surr: 2,4,5,6-TCMX	100	89.6	44	130	
Surr: DCBP	100	93.9	54	141	

CT LABORATORIES
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3E

Sample Description

LCS

WATER PCB LAB CONTROL SAMPLE

Lab Name: CT Laboratories Contract AMEC FOSTER WHEELER-MYRTLE BEACH

Sample No.: 614479 SDG No.: 112835

Analytical Method: EPA 8082A Concentration Units: ug/L

Sample No.: 614479 Parent Sample No.: 0

Analytical Prep Batch #: 53526 Analytical Preparation Date/Time: 07/30/2015 10:00

Analytical Run #: 117299 ICAL Calibration #: 062215pcbic

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Aroclor-1016	07/31/2015 10:43	46-129	4.57		5.00	91
Aroclor-1260	07/31/2015 10:43	45-134	4.52		5.00	90

Spike Recovery: 0 out of 2 outside limits

CT LABORATORIES
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3F

Sample Description

MYRTL-IDW-SO-01

SOIL PCB MATRIX SPIKE RECOVERY

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: SOIL SDG No.: 112835

Analytical Method: EPA 8082A Concentration Units: ug/kg

Analytical Run #: 117473 Sample No.: 614486 Parent Sample No.: 612628

Analytical Prep Batch #: 53525 Analytical Preparation Date/Time: 07/30/2015 14:52

ICAL Calibration #:

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Aroclor-1016	08/07/2015 21:07	47-134	515	BDL	579	89
Aroclor-1260	08/07/2015 21:07	53-140	538	BDL	579	93

Spike Recovery: 0 out of 2 outside QC limits

CT LABORATORIES
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3F

Sample Description

MYRTL-IDW-SO-01

SOIL PCB MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: SOIL SDG No.: 112835

Analytical Method: EPA 8082A Concentration Units: ug/kg

Analytical Run #: 117473 Sample No.: 614487 Parent Sample No.: 614486

Analytical Prep Batch #: 53525 Analytical Preparation Date/Time: 07/30/2015 14:52

ICAL Calibration #:

Analyte	Analysis Date/Time	Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
Aroclor-1016	08/07/2015 21:28	520	575	90	2	47-134	30
Aroclor-1260	08/07/2015 21:28	539	575	94	1	53-140	30

RPD or Spike Recovery: 0 out of 2 outside QC limits

CT LABORATORIES
delivering more than data from your environmental analyses

3F

Sample Description

LCS

SOIL PCB LAB CONTROL SAMPLE

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Sample No.: 614483

SDG No.: 112835

Analytical Method: EPA 8082A

Concentration Units: ug/kg

Sample No.: 614483

Parent Sample No.: 0

Analytical Prep Batch #: 53525

Analytical Preparation Date/Time: 07/30/2015 14:52

Analytical Run #: 117473

ICAL Calibration #: 080715PCBIC

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Aroclor-1016	08/07/2015	20:24	47-134	468		500	94
Aroclor-1260	08/07/2015	20:24	53-140	478		500	96

Spike Recovery: 0 out of 2 outside limits

CT Laboratories

4C-2

PCB METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Sample ID:	614478	SDG No.:	112835
Matrix:	LIQUID	Date Extracted:	07/30/2015
Date Analyzed:	08/03/2015	Time Analyzed:	10:15
Analytical Method:	EPA 8082A	Extraction Method:	SW3510
Analytical Run #:	117299	Extraction Batch #:	53526
		ICAL Calibration #:	

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED
1	MYRTL-IDW-GW-01	612629	07/31/2015 13:35
2	MBW	614478	08/03/2015 10:15
3	LCSW	614479	07/31/2015 10:43
4	AHK3030MSW	614481	07/31/2015 12:09
5	AHK3030MSDW	614485	07/31/2015 12:30
6	CCV	616319	07/31/2015 10:00
7	ICV	616320	06/22/2015 15:57
8	CCV	616321	07/31/2015 13:56
9	CCV	616322	07/31/2015 15:43
10	CCV	616323	08/03/2015 09:32
11	CCV	616324	08/03/2015 11:19

CT Laboratories

4C-2

PCB METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Sample ID:	614482	SDG No.:	112835
Matrix:	SOLID	Date Extracted:	07/30/2015
Date Analyzed:	08/07/2015	Time Analyzed:	20:02
Analytical Method:	EPA 8082A	Extraction Method:	SW3546
Analytical Run #:	117473	Extraction Batch #:	53525
		ICAL Calibration #:	080715PCBIC

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED
1	MYRTL-IDW-SO-01	612628	08/07/2015 20:45
2	MBS	614482	08/07/2015 20:02
3	LCSS	614483	08/07/2015 20:24
4	MYRTL-IDW-SO-01MSS	614486	08/07/2015 21:07
5	MYRTL-IDW-SO-01MSDS	614487	08/07/2015 21:28

METALS
CLP FORMS
DOCUMENTS

CT LABORATORIES
delivering more than data from your environmental analyses

1

Sample Description

MYRTL-IDW-GW-01

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix (soil/water):	GROUND WATER	SDG No.:	112835
% Solids:		Lab Sample ID:	612629
Analytical Method:	EPA 7470A	Date Received:	07/27/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	117289	Analysis Date/Time	08/03/2015 11:19
Analytical Prep Batch #:	53544	Prep. Date/Time:	07/31/2015 07:00
ICAL Calibration #:	08032015	Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-97-6	Total Mercury	0.030	J	0.030	0.060	0.12	0.12

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Description

1

MYRTL-IDW-GW-01

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix (soil/water):	GROUND WATER	SDG No.:	112835
% Solids:		Lab Sample ID:	612629
Analytical Method:	EPA 6010C	Date Received:	07/27/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	117186	Analysis Date/Time	07/29/2015 22:36
Analytical Prep Batch #:	53498	Prep. Date/Time:	07/29/2015 06:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-38-2	Total Arsenic	72.4		4.0	12	24	24
7440-39-3	Total Barium	156		0.29	0.90	1.8	1.8
7440-43-9	Total Cadmium	1.0	U	0.30	1.0	2.0	2.0
7440-47-3	Total Chromium	38.6		0.60	2.0	4.0	4.0
7439-92-1	Total Lead	10.3		1.4	2.0	4.0	4.0
7782-49-2	Total Selenium	9.7	J B	2.2	6.5	13	13
7440-22-4	Total Silver	2.0	U	0.70	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Description

1

MYRTL-IDW-SO-01

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix (soil/water):	TCLP	SDG No.:	112835
% Solids:		Lab Sample ID:	612627
Analytical Method:	EPA 7470A	Date Received:	07/27/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	07/30/2015 07:15
Analytical Run #:	117281	Analysis Date/Time	08/03/2015 13:13
Analytical Prep Batch #:	53540	Prep. Date/Time:	07/31/2015 07:00
ICAL Calibration #:	08032015	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-97-6	Mercury	0.000060	U	0.00003	0.00006	0.00012	0.00012

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Description

1

MYRTL-IDW-SO-01

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix (soil/water):	TCLP	SDG No.:	112835
% Solids:		Lab Sample ID:	612627
Analytical Method:	EPA 6010C	Date Received:	07/27/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	07/30/2015 07:15
Analytical Run #:	117240	Analysis Date/Time	07/30/2015 17:40
Analytical Prep Batch #:	53533	Prep. Date/Time:	07/30/2015 06:00
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-38-2	Arsenic	0.027	B	0.0040	0.012	0.024	0.024
7440-39-3	Barium	0.18		0.00029	0.00090	0.0018	0.0018
7440-43-9	Cadmium	0.0010	U	0.00030	0.0010	0.0020	0.0020
7440-47-3	Chromium	0.0078		0.00060	0.0020	0.0040	0.0040
7439-92-1	Lead	0.0020	U M	0.0014	0.0020	0.0040	0.0040
7782-49-2	Selenium	0.029	B,M	0.0022	0.0065	0.013	0.013
7440-22-4	Silver	0.0020	U	0.00070	0.0020	0.0040	0.0040

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117281 Lab Sample ID: 616409

ICAL Calibration #: 08032015 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	8/3/15 10:44	0.00300	0.00306	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117289 Lab Sample ID: 616498

ICAL Calibration #: 08032015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	8/3/15	10:44	3.00	3.06	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117240 Lab Sample ID: 615694

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Arsenic	7/30/15	13:28	2.00	2.11	106	90	110
Barium	7/30/15	13:28	2.00	2.09	104	90	110
Cadmium	7/30/15	13:28	0.0500	0.0500	100	90	110
Chromium	7/30/15	13:28	0.200	0.201	100	90	110
Lead	7/30/15	13:28	0.500	0.502	100	90	110
Selenium	7/30/15	13:28	2.00	2.06	103	90	110
Silver	7/30/15	13:28	0.0500	0.0503	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117240 Lab Sample ID: 615695

ICAL Calibration #: Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Arsenic	7/30/15	13:33	0.0600	0.0674	112	80	120
Barium	7/30/15	13:33	0.0300	0.0305	102	80	120
Cadmium	7/30/15	13:33	0.0150	0.0148	99	80	120
Chromium	7/30/15	13:33	0.0300	0.0315	105	80	120
Lead	7/30/15	13:33	0.0300	0.0288	96	80	120
Selenium	7/30/15	13:33	0.0600	0.0659	110	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117240 Lab Sample ID: 615700

ICAL Calibration #: Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	7/30/15 14:03	0.0100	0.0104	104	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117186 Lab Sample ID: 615840

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Arsenic	7/29/15	13:55	2000	2060	103	90	110
Barium	7/29/15	13:55	2000	2070	104	90	110
Cadmium	7/29/15	13:55	50.00	50.40	101	90	110
Chromium	7/29/15	13:55	200.0	205.0	102	90	110
Lead	7/29/15	13:55	500.0	548.0	110	90	110
Selenium	7/29/15	13:55	2000	2020	101	90	110
Silver	7/29/15	13:55	50.00	50.60	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117186 Lab Sample ID: 615841

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Arsenic	7/29/15	14:00	60.00	63.90	106	80	120
Barium	7/29/15	14:00	30.00	30.40	101	80	120
Cadmium	7/29/15	14:00	15.00	14.30	95	80	120
Chromium	7/29/15	14:00	30.00	30.50	102	80	120
Lead	7/29/15	14:00	30.00	28.90	96	80	120
Selenium	7/29/15	14:00	60.00	65.80	110	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117240 Lab Sample ID: 616127

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Arsenic	7/31/15	14:01	2.00	2.08	104	90	110
Barium	7/31/15	14:01	2.00	2.09	104	90	110
Cadmium	7/31/15	14:01	0.0500	0.0508	102	90	110
Chromium	7/31/15	14:01	0.200	0.205	102	90	110
Lead	7/31/15	14:01	0.500	0.496	99	90	110
Selenium	7/31/15	14:01	2.00	1.97	98	90	110
Silver	7/31/15	14:01	0.0500	0.0502	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117240 Lab Sample ID: 616128

ICAL Calibration #: Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Arsenic	7/31/15	14:06	0.0600	0.0631	105	80	120
Barium	7/31/15	14:06	0.0300	0.0309	103	80	120
Cadmium	7/31/15	14:06	0.0150	0.0149	99	80	120
Chromium	7/31/15	14:06	0.0300	0.0308	103	80	120
Lead	7/31/15	14:06	0.0300	0.0306	102	80	120
Selenium	7/31/15	14:06	0.0600	0.0658	110	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117240 Lab Sample ID: 616132

ICAL Calibration #: Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	7/31/15	14:36	0.0100	0.0104	104	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117186 Lab Sample ID: 616981

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	7/29/15	14:30	10.00	10.40	104	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117240 Lab Sample ID: 615701

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Arsenic	7/30/15	17:00	5.00	5.33	107	90	110
Barium	7/30/15	17:00	5.00	5.38	108	90	110
Cadmium	7/30/15	17:00	0.500	0.502	100	90	110
Chromium	7/30/15	17:00	5.00	5.05	101	90	110
Lead	7/30/15	17:00	5.00	5.48	110	90	110
Selenium	7/30/15	17:00	5.00	5.41	108	90	110
Silver	7/30/15	17:00	0.500	0.499	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117240 Lab Sample ID: 615702

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Arsenic	7/30/15	17:05	0.500	0.486	97	90	110
Barium	7/30/15	17:05	0.500	0.527	105	90	110
Cadmium	7/30/15	17:05	0.0500	0.0507	101	90	110
Chromium	7/30/15	17:05	0.500	0.517	103	90	110
Lead	7/30/15	17:05	0.500	0.532	106	90	110
Selenium	7/30/15	17:05	0.500	0.537	107	90	110
Silver	7/30/15	17:05	0.0500	0.0514	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117240 Lab Sample ID: 615705

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Arsenic	7/30/15	18:07	5.00	5.30	106	90	110
Barium	7/30/15	18:07	5.00	5.02	100	90	110
Cadmium	7/30/15	18:07	0.500	0.504	101	90	110
Chromium	7/30/15	18:07	5.00	4.90	98	90	110
Lead	7/30/15	18:07	5.00	5.32	106	90	110
Selenium	7/30/15	18:07	5.00	5.32	106	90	110
Silver	7/30/15	18:07	0.500	0.499	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117240 Lab Sample ID: 615706

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Arsenic	7/30/15	18:12	0.500	0.550	110	90	110
Barium	7/30/15	18:12	0.500	0.495	99	90	110
Cadmium	7/30/15	18:12	0.0500	0.0520	104	90	110
Chromium	7/30/15	18:12	0.500	0.507	101	90	110
Lead	7/30/15	18:12	0.500	0.496	99	90	110
Selenium	7/30/15	18:12	0.500	0.526	105	90	110
Silver	7/30/15	18:12	0.0500	0.0513	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117240

Lab Sample ID: 616133

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Arsenic	7/31/15	17:46	0.500	0.521	104	90	110
Barium	7/31/15	17:46	0.500	0.505	101	90	110
Cadmium	7/31/15	17:46	0.0500	0.0494	99	90	110
Chromium	7/31/15	17:46	0.500	0.495	99	90	110
Lead	7/31/15	17:46	0.500	0.493	99	90	110
Selenium	7/31/15	17:46	0.500	0.524	105	90	110
Silver	7/31/15	17:46	0.0500	0.0494	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117240 Lab Sample ID: 616135

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Arsenic	7/31/15	17:41	5.00	5.01	100	90	110
Barium	7/31/15	17:41	5.00	5.22	104	90	110
Cadmium	7/31/15	17:41	0.500	0.494	99	90	110
Chromium	7/31/15	17:41	5.00	5.07	101	90	110
Lead	7/31/15	17:41	5.00	5.12	102	90	110
Selenium	7/31/15	17:41	5.00	5.17	103	90	110
Silver	7/31/15	17:41	0.500	0.493	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117281 Lab Sample ID: 616421

ICAL Calibration #: 08032015 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	8/3/15 13:05	0.00300	0.00305	102	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117281 Lab Sample ID: 616425

ICAL Calibration #: 08032015 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	8/3/15 13:29	0.00300	0.00306	102	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117186 Lab Sample ID: 615847

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Arsenic	7/29/15	22:01	5000	5270	105	90	110
Barium	7/29/15	22:01	5000	5240	105	90	110
Cadmium	7/29/15	22:01	500.0	534.0	107	90	110
Chromium	7/29/15	22:01	5000	5370	107	90	110
Lead	7/29/15	22:01	5000	5330	107	90	110
Selenium	7/29/15	22:01	5000	5390	108	90	110
Silver	7/29/15	22:01	500.0	523.0	105	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117186 Lab Sample ID: 615848

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Arsenic	7/29/15	22:06	500.0	541.0	108	90	110
Barium	7/29/15	22:06	500.0	530.0	106	90	110
Cadmium	7/29/15	22:06	50.00	52.80	106	90	110
Chromium	7/29/15	22:06	500.0	517.0	103	90	110
Lead	7/29/15	22:06	500.0	517.0	103	90	110
Selenium	7/29/15	22:06	500.0	543.0	109	90	110
Silver	7/29/15	22:06	50.00	52.90	106	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117186 Lab Sample ID: 615852

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Arsenic	7/29/15	23:05	5000	5190	104	90	110
Barium	7/29/15	23:05	5000	5280	106	90	110
Cadmium	7/29/15	23:05	500.0	510.0	102	90	110
Chromium	7/29/15	23:05	5000	5290	106	90	110
Lead	7/29/15	23:05	5000	5260	105	90	110
Selenium	7/29/15	23:05	5000	5310	106	90	110
Silver	7/29/15	23:05	500.0	513.0	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117186 Lab Sample ID: 615853

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Arsenic	7/29/15	23:10	500.0	529.0	106	90	110
Barium	7/29/15	23:10	500.0	535.0	107	90	110
Cadmium	7/29/15	23:10	50.00	52.50	105	90	110
Chromium	7/29/15	23:10	500.0	522.0	104	90	110
Lead	7/29/15	23:10	500.0	517.0	103	90	110
Selenium	7/29/15	23:10	500.0	545.0	109	90	110
Silver	7/29/15	23:10	50.00	52.80	106	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117289 Lab Sample ID: 616500

ICAL Calibration #: 08032015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	8/3/15 11:07	3.00	3.05	102	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117289 Lab Sample ID: 616504

ICAL Calibration #: 08032015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	8/3/15	11:30	3.00	3.01	100	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117289 Lab Sample ID: 616516

ICAL Calibration #: 08032015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	8/3/15 14:04	3.00	3.05	102	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117289 Lab Sample ID: 616518

ICAL Calibration #: 08032015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	8/3/15	14:13	3.00	3.03	101	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117240 Lab Sample ID: 615696

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Arsenic	07/30/2015 13:43	-0.00103	U	0.004	0.012
Barium	07/30/2015 13:43	0.000023	U	0.00029	0.00090
Cadmium	07/30/2015 13:43	-0.000181	U	0.0003	0.0010
Chromium	07/30/2015 13:43	-0.00145	U	0.0006	0.0020
Lead	07/30/2015 13:43	-0.00132	U	0.0014	0.0020
Selenium	07/30/2015 13:43	0.000806	U	0.0022	.010
Silver	07/30/2015 13:43	0.000603	U	0.0007	0.0020

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117186 Lab Sample ID: 615842

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Arsenic	07/29/2015 14:10	0	U	4	12
Barium	07/29/2015 14:10	0	U	0.29	0.90
Cadmium	07/29/2015 14:10	0	U	0.3	1.0
Chromium	07/29/2015 14:10	0	U	0.6	2.0
Lead	07/29/2015 14:10	1.30	U	1.4	2.0
Selenium	07/29/2015 14:10	0	U	2.2	10
Silver	07/29/2015 14:10	0.659	U	0.7	2.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117240 Lab Sample ID: 616129

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Arsenic	07/31/2015 14:16	0.00168	U	0.004	0.012
Barium	07/31/2015 14:16	-0.000631	U	0.00029	0.00090
Cadmium	07/31/2015 14:16	-0.000164	U	0.0003	0.0010
Chromium	07/31/2015 14:16	0.000239	U	0.0006	0.0020
Lead	07/31/2015 14:16	-0.00162	U	0.0014	0.0020
Selenium	07/31/2015 14:16	0.00178	U	0.0022	0.010
Silver	07/31/2015 14:16	0.000432	U	0.0007	0.0020

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117281

Lab Sample ID: 616410

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: 08032015

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	08/03/2015 10:46	0.000010	U	0.00003	0.00006

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117289 Lab Sample ID: 616499

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 08032015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	08/03/2015 10:46	0.0100	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

3-2

CCB

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117240 Lab Sample ID: 615703

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Arsenic	07/30/2015 17:10	0.00684		0.004	0.012
Barium	07/30/2015 17:10	0.000296		0.00029	0.00090
Cadmium	07/30/2015 17:10	-0.000007	U	0.0003	0.0010
Chromium	07/30/2015 17:10	0.00117		0.0006	0.0020
Lead	07/30/2015 17:10	-0.000199	U	0.0014	0.0020
Selenium	07/30/2015 17:10	0.00620		0.0022	.010
Silver	07/30/2015 17:10	0.000469	U	0.0007	0.0020

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

3-2

CCB

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117240 Lab Sample ID: 615707

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Arsenic	07/30/2015 18:16	0.00332	U	0.004	0.012
Barium	07/30/2015 18:16	0.000246	U	0.00029	0.00090
Cadmium	07/30/2015 18:16	-0.000124	U	0.0003	0.0010
Chromium	07/30/2015 18:16	0.00117		0.0006	0.0020
Lead	07/30/2015 18:16	-0.00111	U	0.0014	0.0020
Selenium	07/30/2015 18:16	0.00525		0.0022	.010
Silver	07/30/2015 18:16	0.000305	U	0.0007	0.0020

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

3-2

CCB

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117186 Lab Sample ID: 615849

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Arsenic	07/29/2015 22:11	2.55	U	4	12
Barium	07/29/2015 22:11	0.247	U	0.29	0.90
Cadmium	07/29/2015 22:11	-0.256	U	0.3	1.0
Chromium	07/29/2015 22:11	0.163	U	0.6	2.0
Lead	07/29/2015 22:11	0.545	U	1.4	2.0
Selenium	07/29/2015 22:11	1.77	U	2.2	10
Silver	07/29/2015 22:11	0.669	U	0.7	2.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117186 Lab Sample ID: 615854

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Arsenic	07/29/2015 23:14	0.823	U	4	12
Barium	07/29/2015 23:14	0.172	U	0.29	0.90
Cadmium	07/29/2015 23:14	-0.293	U	0.3	1.0
Chromium	07/29/2015 23:14	-0.404	U	0.6	2.0
Lead	07/29/2015 23:14	0.493	U	1.4	2.0
Selenium	07/29/2015 23:14	7.34		2.2	10
Silver	07/29/2015 23:14	0.331	U	0.7	2.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

3-2

CCB

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117240 Lab Sample ID: 616134

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Arsenic	07/31/2015 17:51	0.00233	U	0.004	0.012
Barium	07/31/2015 17:51	-0.000385	U	0.00029	0.00090
Cadmium	07/31/2015 17:51	-0.000050	U	0.0003	0.0010
Chromium	07/31/2015 17:51	0.000897		0.0006	0.0020
Lead	07/31/2015 17:51	-0.00200	U	0.0014	0.0020
Selenium	07/31/2015 17:51	0.00933		0.0022	.010
Silver	07/31/2015 17:51	0.000557	U	0.0007	0.0020

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117281 Lab Sample ID: 616422

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 08032015 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	08/03/2015 13:07	0.000010	U	0.00003	0.00006

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117281

Lab Sample ID: 616426

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: 08032015

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	08/03/2015 13:31	0.000020	U	0.00003	0.00006

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117289

Lab Sample ID: 616501

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: 08032015

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	08/03/2015 11:09	0.0100	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.

***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117289

Lab Sample ID: 616505

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: 08032015

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	08/03/2015 11:32	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.

***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117289

Lab Sample ID: 616517

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: 08032015

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	08/03/2015 14:06	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117289

Lab Sample ID: 616519

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: 08032015

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	08/03/2015 14:15	0.0100	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.

***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117186 Lab Sample ID: 612927

Analytical Prep Batch # 53498 Preparation Date/Time: 07/29/2015 06:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Total Arsenic	07/29/2015 22:31	1.02	U	4	12	
Total Barium	07/29/2015 22:31	0.185	U	0.29	0.90	
Total Cadmium	07/29/2015 22:31	-0.375	U	0.3	1.0	
Total Chromium	07/29/2015 22:31	1.50		0.6	2.0	FAIL
Total Lead	07/29/2015 22:31	0.215	U	1.4	2.0	
Total Selenium	07/29/2015 22:31	8.76		2.2	10	FAIL
Total Silver	07/29/2015 22:31	0.427	U	0.7	2.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117240 Lab Sample ID: 614589

Analytical Prep Batch # 53533 Preparation Date/Time: 07/30/2015 06:00

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Arsenic	07/30/2015 17:35	0.00563		0.004	0.012	FAIL
Barium	07/30/2015 17:35	0.000427		0.00029	0.00090	FAIL
Cadmium	07/30/2015 17:35	-0.000070	U	0.0003	0.0010	
Chromium	07/30/2015 17:35	0.000481	U	0.0006	0.0020	
Lead	07/30/2015 17:35	-0.00185	U	0.0014	0.0020	
Selenium	07/30/2015 17:35	0.00948		0.0022	.010	FAIL
Silver	07/30/2015 17:35	0.000668	U	0.0007	0.0020	

** Detection Limit only reported if value was less than the control limit.

***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

3-3

METHOD BLANKS

Sample No

MB

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117281 Lab Sample ID: 614624

Analytical Prep Batch # 53540 Preparation Date/Time: 07/31/2015 07:00

ICAL Calibration #: 08032015 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	08/03/2015 13:11	0	U	0.00003	0.00006

** Detection Limit only reported if value was less than the control limit.

***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117289 Lab Sample ID: 614643

Analytical Prep Batch # 53544 Preparation Date/Time: 07/31/2015 07:00

ICAL Calibration #: 08032015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Mercury	08/03/2015 14:10	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.

***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: AMEC FOSTER WHEELER-MYRTLE BEACH
ICP ID Number: TJA 6000
SDG No.: 112835
ICS Source: SPEX

Analytical Run #: 117240
Lab Sample ID: 615698
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/30/2015 13:53	500.0	493.0	99	80	120
Arsenic	07/30/2015 13:53	0	-0.000954		-0.006	0.006
Barium	07/30/2015 13:53	0	0.000205		-0.0007	0.0007
Cadmium	07/30/2015 13:53	0	0.00000100		-0.00026	0.00026
Calcium	07/30/2015 13:53	500.0	467.0	93	80	120
Chromium	07/30/2015 13:53	0	0		-0.0019	0.0019
Iron	07/30/2015 13:53	500.0	460.0	92	80	120
Lead	07/30/2015 13:53	0	0.000131		-0.0015	0.0015
Magnesium	07/30/2015 13:53	500.0	431.0	86	80	120
Selenium	07/30/2015 13:53	0	0.000171		-0.012	0.012
Silver	07/30/2015 13:53	0	0.000385		-0.0020	0.0020

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: AMEC FOSTER WHEELER-MYRTLE BEACH
ICP ID Number: TJA 6000
SDG No.: 112835
ICS Source: SPEX

Analytical Run #: 117186
Lab Sample ID: 615844
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/29/2015 14:20	500000	517000	103	80	120
Arsenic	07/29/2015 14:20	0	0.0720		-6	6
Barium	07/29/2015 14:20	0	0		-0.7	0.7
Cadmium	07/29/2015 14:20	0	-0.00100		-0.26	0.26
Calcium	07/29/2015 14:20	500000	429000	86	80	120
Chromium	07/29/2015 14:20	0	0		-1.9	1.9
Iron	07/29/2015 14:20	500000	491000	98	80	120
Lead	07/29/2015 14:20	0	-0.00100		-1.5	1.5
Magnesium	07/29/2015 14:20	500000	455000	91	80	120
Selenium	07/29/2015 14:20	0	0		-12	12
Silver	07/29/2015 14:20	0	0.0250		-2.0	2.0

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: AMEC FOSTER WHEELER-MYRTLE BEACH
ICP ID Number: TJA 6000
SDG No.: 112835
ICS Source: SPEX

Analytical Run #: 117240
Lab Sample ID: 616130
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/31/2015 14:26	500.0	511.0	102	80	120
Arsenic	07/31/2015 14:26	0	-0.0000030		-0.006	0.006
Barium	07/31/2015 14:26	0	0.0000240		-0.0007	0.0007
Cadmium	07/31/2015 14:26	0	0		-0.00026	0.00026
Calcium	07/31/2015 14:26	500.0	486.0	97	80	120
Chromium	07/31/2015 14:26	0	0		-0.0019	0.0019
Iron	07/31/2015 14:26	500.0	478.0	96	80	120
Lead	07/31/2015 14:26	0	0.0000900		-0.0015	0.0015
Magnesium	07/31/2015 14:26	500.0	436.0	87	80	120
Selenium	07/31/2015 14:26	0	0.0000850		-0.012	0.012
Silver	07/31/2015 14:26	0	0.0000470		-0.0020	0.0020

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: AMEC FOSTER WHEELER-MYRTLE BEACH
ICP ID Number: TJA 6000
SDG No.: 112835
ICS Source: SPEX, Ultra

Analytical Run #: 117240
Lab Sample ID: 615699
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/30/2015 13:58	500.0	514.0	103	80	120
Arsenic	07/30/2015 13:58	0.500	0.514	103	80	120
Barium	07/30/2015 13:58	0.500	0.466	93	80	120
Cadmium	07/30/2015 13:58	0.500	0.497	99	80	120
Calcium	07/30/2015 13:58	500.0	488.0	98	80	120
Chromium	07/30/2015 13:58	0.500	0.440	88	80	120
Iron	07/30/2015 13:58	500.0	480.0	96	80	120
Lead	07/30/2015 13:58	0.500	0.458	92	80	120
Magnesium	07/30/2015 13:58	500.0	437.0	87	80	120
Selenium	07/30/2015 13:58	0.500	0.505	101	80	120
Silver	07/30/2015 13:58	0.500	0.542	108	80	120

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: AMEC FOSTER WHEELER-MYRTLE BEACH
ICP ID Number: TJA 6000
SDG No.: 112835
ICS Source: SPEX, Ultra

Analytical Run #: 117186
Lab Sample ID: 615845
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/29/2015 14:25	500000	540000	108	80	120
Arsenic	07/29/2015 14:25	500.0	519.0	104	80	120
Barium	07/29/2015 14:25	500.0	579.0	116	80	120
Cadmium	07/29/2015 14:25	500.0	436.0	87	80	120
Calcium	07/29/2015 14:25	500000	510000	102	80	120
Chromium	07/29/2015 14:25	500.0	536.0	107	80	120
Iron	07/29/2015 14:25	500000	513000	103	80	120
Lead	07/29/2015 14:25	500.0	462.0	92	80	120
Magnesium	07/29/2015 14:25	500000	563000	113	80	120
Selenium	07/29/2015 14:25	500.0	480.0	96	80	120
Silver	07/29/2015 14:25	500.0	555.0	111	80	120

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: AMEC FOSTER WHEELER-MYRTLE BEACH
ICP ID Number: TJA 6000
SDG No.: 112835
ICS Source: SPEX, Ultra

Analytical Run #: 117240
Lab Sample ID: 616131
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/31/2015 14:31	500.0	529.0	106	80	120
Arsenic	07/31/2015 14:31	0.500	0.594	119	80	120
Barium	07/31/2015 14:31	0.500	0.474	95	80	120
Cadmium	07/31/2015 14:31	0.500	0.516	103	80	120
Calcium	07/31/2015 14:31	500.0	506.0	101	80	120
Chromium	07/31/2015 14:31	0.500	0.439	88	80	120
Iron	07/31/2015 14:31	500.0	495.0	99	80	120
Lead	07/31/2015 14:31	0.500	0.442	88	80	120
Magnesium	07/31/2015 14:31	500.0	484.0	97	80	120
Selenium	07/31/2015 14:31	0.500	0.533	107	80	120
Silver	07/31/2015 14:31	0.500	0.551	110	80	120

CT LABORATORIES
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5A

Sample Description

MYRTL-IDW-GW-01

SPIKE SAMPLE RECOVERY

Lab Name: CT Laboratories
Contract: AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix: LIQUID
SDG No.: 112835
% Solids for Sample:
Concentration Units: ug/L
Sample No 612930
Parent Sample No.: 612629
Analytical Prep Batch # 53498
Analytical Preparation Date/Time: 07/29/2015 06:00
Analytical Run #: 117186
ICAL Calibration #:

Analysis Type *Initial Analysis* Analysis Date: ----- 07/29/2015 Analysis Time: -------- 22:50

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Arsenic	87-113	860		72.4		800	98		P
Total Barium	88-113	967		156		800	101		P
Total Cadmium	88-113	18.4		BDL	U	20.0	92		P
Total Chromium	90-113	120		38.6		80.0	102		P
Total Lead	86-113	203		10.3		200	96		P
Total Selenium	83-114	809		9.7	J	800	100		P
Total Silver	84-115	18.8		BDL	U	20.0	94		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

Sample Description

MYRTL-IDW-SO-01

SPIKE SAMPLE RECOVERY

Lab Name: CT Laboratories
Contract: AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix: LIQUID
SDG No.: 112835
% Solids for Sample:
Concentration Units: mg/L
Sample No 614592
Parent Sample No.: 612627
Analytical Prep Batch # 53533
Analytical Preparation Date/Time: 07/30/2015 06:00
Analytical Run #: 117240
ICAL Calibration #:

Analysis Type *Initial Analysis* Analysis Date: ----- 07/30/2015 Analysis Time: -------- 17:56

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Arsenic	87-113	0.866		0.027		0.800	105		P	
Barium	88-113	1.05		0.18		0.800	109		P	
Cadmium	88-113	0.0148		BDL	U	0.0200	74		P	*FAIL*
Chromium	90-113	0.0856		0.0078		0.0800	97		P	
Lead	86-113	0.151		BDL	U	0.200	76		P	*FAIL*
Selenium	83-114	0.875		0.029		0.800	106		P	
Silver	84-115	0.0212		BDL	U	0.0200	106		P	

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

MYRTL-IDW-SO-01

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	LIQUID	SDG No.:	112835
% Solids for Sample:		Concentration Units:	mg/L
Sample No	614627	Parent Sample No.:	612627
Analytical Prep Batch #	53540	Analytical Preparation Date/Time:	07/31/2015 07:00
Analytical Run #:	117281	ICAL Calibration #:	08032015

Analysis Type	*Initial Analysis*	Analysis Date: -----	08/03/2015	Analysis Time: --------	13:19

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Mercury	82-119	0.00205		BDL	U	0.00200	102		CV

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

Sample Description

MYRTL-IDW-GW-01

SPIKE SAMPLE RECOVERY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	LIQUID	SDG No.:	112835
% Solids for Sample:		Concentration Units:	ug/L
Sample No	614647	Parent Sample No.:	612629
Analytical Prep Batch #	53544	Analytical Preparation Date/Time:	07/31/2015 07:00
Analytical Run #:	117289	ICAL Calibration #:	08032015

Analysis Type *Initial Analysis* Analysis Date: ----- 08/03/2015 Analysis Time: -------- 11:25

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Mercury	82-119	1.9		0.030	J	2.0	94		CV

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5B

Sample Description: MYRTL-IDW-SO-01

POST DIGESTION SPIKE SAMPLE RECOVERY

Lab Name: CT Laboratories
Contract: AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix: LIQUID
SDG No.: 112835
% Solids for Sample:
Concentration Units: mg/L
Sample No: 615708
Parent Sample No.: 612627
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 117240
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 07/31/2015 Analysis Time: -------- 17:36

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Arsenic	80-120	4.43		0.027		4	110		P	
Barium	80-120	4.54		0.18		4	109		P	
Cadmium	80-120	0.0819		BDL	U	0.1	82		P	
Chromium	80-120	0.403		0.0078		0.4	99		P	
Lead	80-120	0.375		BDL	U	1	38		P	*FAIL*
Selenium	80-120	4.87		0.029		4	121		P	*FAIL*
Silver	80-120	0.0941		BDL	U	0.1	94		P	

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5B

Sample Description

MYRTL-IDW-GW-01

POST DIGESTION SPIKE SAMPLE RECOVERY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	LIQUID	SDG No.:	112835
% Solids for Sample:		Concentration Units:	ug/L
Sample No	615908	Parent Sample No.:	612629
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	117186	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 07/29/2015 Analysis Time: -------- 23:00

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Arsenic	80-120	4310		72.4		4000	106		P
Barium	80-120	4330		156		4000	104		P
Cadmium	80-120	88.1		BDL	U	100	88		P
Chromium	80-120	448		38.6		400	102		P
Lead	80-120	977		10.3		1000	97		P
Selenium	80-120	4600		9.7	J	4000	115		P
Silver	80-120	105		BDL	U	100	105		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5B

Sample Description

MYRTL-IDW-SO-01

POST DIGESTION SPIKE SAMPLE RECOVERY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	LIQUID	SDG No.:	112835
% Solids for Sample:		Concentration Units:	mg/L
Sample No	616424	Parent Sample No.:	612627
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	117281	ICAL Calibration #:	08032015

Analysis Type *Initial Analysis* Analysis Date: ----- 08/03/2015 Analysis Time: -------- 13:23

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Mercury	80-120	0.00216		BDL	U	0.002	108		CV

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5B

Sample Description

MYRTL-IDW-GW-01

POST DIGESTION SPIKE SAMPLE RECOVERY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	LIQUID	SDG No.:	112835
% Solids for Sample:		Concentration Units:	ug/L
Sample No	616503	Parent Sample No.:	612629
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	117289	ICAL Calibration #:	08032015

Analysis Type *Initial Analysis* Analysis Date: ----- 08/03/2015 Analysis Time: -------- 11:28

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Mercury	80-120	2.0		0.030	J	2	98		CV

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

Sample Description

MYRTL-IDW-GW-01

SPIKE DUPLICATE SAMPLE RECOVERY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	LIQUID	SDG No.:	112835
% Solids for Sample:		Concentration Units:	ug/L
Sample No	612931	Parent Sample No.:	612930
Analytical Prep Batch #	53498	Analytical Preparation Date/Time:	07/29/2015 06:00
Analytical Run #:	117186	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/29/2015	Analysis Time: --------	22:55

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Arsenic	87-113	895		72.4		800	103		P
Total Barium	88-113	1000		156		800	106		P
Total Cadmium	88-113	19.2		BDL	U	20.0	96		P
Total Chromium	90-113	125		38.6		80.0	108		P
Total Lead	86-113	213		10.3		200	101		P
Total Selenium	83-114	843		9.7	J	800	104		P
Total Silver	84-115	19.4		BDL	U	20.0	97		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

Sample Description

MYRTL-IDW-SO-01

SPIKE DUPLICATE SAMPLE RECOVERY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	LIQUID	SDG No.:	112835
% Solids for Sample:		Concentration Units:	mg/L
Sample No	614593	Parent Sample No.:	614592
Analytical Prep Batch #	53533	Analytical Preparation Date/Time:	07/30/2015 06:00
Analytical Run #:	117240	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 07/30/2015 Analysis Time: -------- 18:01

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Arsenic	87-113	0.844		0.027		0.800	102		P	
Barium	88-113	1.04		0.18		0.800	108		P	
Cadmium	88-113	0.0147		BDL	U	0.0200	74		P	*FAIL*
Chromium	90-113	0.0858		0.0078		0.0800	98		P	
Lead	86-113	0.144		BDL	U	0.200	72		P	*FAIL*
Selenium	83-114	0.830		0.029		0.800	100		P	
Silver	84-115	0.0204		BDL	U	0.0200	102		P	

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

Sample Description

MYRTL-IDW-SO-01

SPIKE DUPLICATE SAMPLE RECOVERY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	LIQUID	SDG No.:	112835
% Solids for Sample:		Concentration Units:	mg/L
Sample No	614628	Parent Sample No.:	614627
Analytical Prep Batch #	53540	Analytical Preparation Date/Time:	07/31/2015 07:00
Analytical Run #:	117281	ICAL Calibration #:	08032015

Analysis Type *Initial Analysis* Analysis Date: ----- 08/03/2015 Analysis Time: -------- 13:21

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Mercury	82-119	0.00203		BDL	U	0.00200	102		CV

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

Sample Description

MYRTL-IDW-GW-01

SPIKE DUPLICATE SAMPLE RECOVERY

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	LIQUID	SDG No.:	112835
% Solids for Sample:		Concentration Units:	ug/L
Sample No	614648	Parent Sample No.:	614647
Analytical Prep Batch #	53544	Analytical Preparation Date/Time:	07/31/2015 07:00
Analytical Run #:	117289	ICAL Calibration #:	08032015

Analysis Type	*Initial Analysis*	Analysis Date: -----	08/03/2015	Analysis Time: --------	11:27

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Mercury	82-119	2.0		0.030	J	2.0	98		CV

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

MYRTL-IDW-GW-01

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: LIQUID

SDG No.: 112835

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 53498

Analytical Run #: 117186

ICAL Calibration #:

Sample #: 612929

Parent Sample #: 612629

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Total Arsenic	07/29/2015	22:46	20	72.4		72.5		0		P	
Total Barium	07/29/2015	22:46	20	156		155		1		P	
Total Cadmium	07/29/2015	22:46	20	0.30	U	0.30	U	0		P	
Total Chromium	07/29/2015	22:46	20	38.6		38.7		0		P	
Total Lead	07/29/2015	22:46	20	10.3		11.7		13		P	
Total Selenium	07/29/2015	22:46	20	9.7	J	3.7	J	90		P	*FAIL*
Total Silver	07/29/2015	22:46	20	0.70	U	0.70	U	0		P	

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

MYRTL-IDW-SO-01

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: LIQUID

SDG No.: 112835

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 53533

Analytical Run #: 117240

ICAL Calibration #:

Sample #: 614591

Parent Sample #: 612627

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Arsenic	07/30/2015	17:51	20	0.027		0.0259		4		P
Barium	07/30/2015	17:51	20	0.18		0.172		5		P
Cadmium	07/30/2015	17:51	20	0.00030	U	0.00030	U	0		P
Chromium	07/30/2015	17:51	20	0.0078		0.00906		15		P
Lead	07/30/2015	17:51	20	0.0014	U	0.0014	U	0		P
Selenium	07/30/2015	17:51	20	0.029		0.0293		1		P
Silver	07/30/2015	17:51	20	0.00070	U	0.00070	U	0		P

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

MYRTL-IDW-SO-01

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: LIQUID

SDG No.: 112835

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 53540

Analytical Run #: 117281

ICAL Calibration #: 08032015

Sample #: 614626

Parent Sample #: 612627

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Mercury	08/03/2015	13:17	20	0.000030	U	0.000030	J	200		CV	*FAIL*

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

MYRTL-IDW-GW-01

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: LIQUID

SDG No.: 112835

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 53544

Analytical Run #: 117289

ICAL Calibration #: 08032015

Sample #: 614646

Parent Sample #: 612629

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Mercury	08/03/2015	11:23	20	0.030	J	0.030	J	0		CV

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description

MYRTL-IDW-GW-01

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: LIQUID

SDG No.: 112835

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 53498

Analytical Preparation Date/Time 07/29/2015 06:00

Analytical Run #: 117186

ICAL Calibration #:

Sample #: 612931

Parent Sample #: 612930

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Arsenic	07/29/2015	22:55	20	860		895		4		P
Total Barium	07/29/2015	22:55	20	967		1000		3		P
Total Cadmium	07/29/2015	22:55	20	18.4		19.2		4		P
Total Chromium	07/29/2015	22:55	20	120		125		4		P
Total Lead	07/29/2015	22:55	20	203		213		5		P
Total Selenium	07/29/2015	22:55	20	809		843		4		P
Total Silver	07/29/2015	22:55	20	18.8		19.4		3		P

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **MYRTL-IDW-SO-01**

Lab Name: CT Laboratories | Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: LIQUID | SDG No.: 112835

% Solid for Sample: | Concentration Units: mg/L

Analytical Prep Batch #: 53533 | Analytical Preparation Date/Time: 07/30/2015 06:00

Analytical Run #: 117240 | ICAL Calibration #:

Sample #: 614593 | Parent Sample #: 614592

Analysis Type: *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Arsenic	07/30/2015	18:01	20	0.866		0.844		3		P
Barium	07/30/2015	18:01	20	1.05		1.04		1		P
Cadmium	07/30/2015	18:01	20	0.0148		0.0147		1		P
Chromium	07/30/2015	18:01	20	0.0856		0.0858		0		P
Lead	07/30/2015	18:01	20	0.151		0.144		5		P
Selenium	07/30/2015	18:01	20	0.875		0.830		5		P
Silver	07/30/2015	18:01	20	0.0212		0.0204		4		P

CT LABORATORIES
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6A

MATRIX SPIKE DUPLICATES

Sample Description

MYRTL-IDW-SO-01

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: LIQUID

SDG No.: 112835

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch #: 53540

Analytical Preparation Date/Time: 07/31/2015 07:00

Analytical Run #: 117281

ICAL Calibration #: 08032015

Sample #: 614628

Parent Sample #: 614627

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim	RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Mercury	08/03/2015 13:21	20	0.00205		0.00203		1		CV

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **MYRTL-IDW-GW-01**

Lab Name: CT Laboratories
Contract: AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix: LIQUID
SDG No.: 112835
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch #: 53544
Analytical Preparation Date/Time: 07/31/2015 07:00
Analytical Run #: 117289
ICAL Calibration #: 08032015
Sample #: 614648
Parent Sample #: 614647

Analysis Type: *Initial Analysis*

Analyte	Analysis Date/Tim	RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Mercury	08/03/2015 11:27	20	1.9		2.0		2		CV

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LCS

LABORATORY CONTROL SAMPLE - AQUEOUS

Lab Name: CT Laboratories Contract AMEC FOSTER WHEELER-MYRTLE BEACH

LCS Source: SPEX and Ultra SDG No.: 112835

Concentration Units: ug/L

Analytical Run #: 117186 Sample No.:#: 612928

Analytical Prep Batch #: 53498 Preparation Date/Time: 07/29/2015 06:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Arsenic	07/29/2015 22:26	87-113	834.0		800.0	104		P
Total Barium	07/29/2015 22:26	88-113	838.0		800.0	105		P
Total Cadmium	07/29/2015 22:26	88-113	20.10		20.00	100		P
Total Chromium	07/29/2015 22:26	90-113	81.10		80.00	101		P
Total Lead	07/29/2015 22:26	86-113	207.0		200.0	104		P
Total Selenium	07/29/2015 22:26	83-114	801.0		800.0	100		P
Total Silver	07/29/2015 22:26	84-115	20.70		20.00	104		P

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract AMEC FOSTER WHEELER-MYRTLE BEACH

LCS Source: SPEX and Ultra SDG No.: 112835

Concentration Units: mg/L

Analytical Run #: 117240 Sample No.:#: 614590

Analytical Prep Batch #: 53533 Preparation Date/Time: 07/30/2015 06:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Arsenic	07/30/2015 17:30	87-113	0.834		0.800	104		P
Barium	07/30/2015 17:30	88-113	0.861		0.800	108		P
Cadmium	07/30/2015 17:30	88-113	0.0195		0.0200	98		P
Chromium	07/30/2015 17:30	90-113	0.0833		0.0800	104		P
Lead	07/30/2015 17:30	86-113	0.196		0.200	98		P
Selenium	07/30/2015 17:30	83-114	0.793		0.800	99		P
Silver	07/30/2015 17:30	84-115	0.0208		0.0200	104		P

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract AMEC FOSTER WHEELER-MYRTLE BEACH

LCS Source: SPEX and Ultra SDG No.: 112835

Concentration Units: mg/L

Analytical Run #: 117281 Sample No.:#: 614625

Analytical Prep Batch #: 53540 Preparation Date/Time: 07/31/2015 07:00

ICAL Calibration #: 08032015

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Mercury	08/03/2015 13:09	82-119	0.00306		0.00300	102		CV

CT LABORATORIES
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7-1

Sample No:

LCS

LABORATORY CONTROL SAMPLE - AQUEOUS

Lab Name: CT Laboratories Contract AMEC FOSTER WHEELER-MYRTLE BEACH

LCS Source: SPEX and Ultra SDG No.: 112835

Concentration Units: ug/L

Analytical Run #: 117289 Sample No.:#: 614644

Analytical Prep Batch #: 53544 Preparation Date/Time: 07/31/2015 07:00

ICAL Calibration #: 08032015

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Mercury	08/03/2015 11:15	82-119	3.06		3.00	102		CV

CT LABORATORIES
delivering more than data from your environmental analyses

9

ICP SERIAL DILUTION

Sample Description: **MYRTL-IDW-SO-01**

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: LIQUID SDG No.: 112835

Concentration Units: ug/L

Sample No.: 615704 Parent Sample No.: 612627

LIMS Run #: 117240 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Arsenic	07/30/2015 17:45	27.0		98		263		P	*INVALID*
Barium	07/30/2015 17:45	175.		258		47		P	*FAIL*
Cadmium	07/30/2015 17:45	BDL	U	0.0015	U	0		P	*INVALID*
Chromium	07/30/2015 17:45	7.77		14.55		87		P	*INVALID*
Lead	07/30/2015 17:45	BDL	U	0.007	U	0		P	*INVALID*
Selenium	07/30/2015 17:45	29.4		55.5		89		P	*INVALID*
Silver	07/30/2015 17:45	BDL	U	0.235		0		P	*INVALID*

CT LABORATORIES
delivering more than data from your environmental analyses

9

ICP SERIAL DILUTION

Sample Description: **MYRTL-IDW-GW-01**

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: LIQUID SDG No.: 112835

Concentration Units: ug/L

Sample No.: 615907 Parent Sample No.: 612629

LIMS Run #: 117186 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Arsenic	07/29/2015 22:41	72.4	J	52	J	28		P	*INVALID*
Barium	07/29/2015 22:41	156		178.5		14		P	*FAIL*
Cadmium	07/29/2015 22:41	BDL	U	1.5	U	0		P	*INVALID*
Chromium	07/29/2015 22:41	38.6		41.1		6		P	*INVALID*
Lead	07/29/2015 22:41	10.3	J	8.2	J	20		P	*INVALID*
Selenium	07/29/2015 22:41	9.70	U	11	U	100		P	*INVA*
Silver	07/29/2015 22:41	BDL	U	3.5	U	0		P	*INVALID*

CT LABORATORIES
delivering more than data from your environmental analyses

9

CVAA SERIAL DILUTION

Sample Description: **MYRTL-IDW-SO-01**

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: LIQUID SDG No.: 112835

Concentration Units: mg/L

Sample No.: 616423 Parent Sample No.: 612627

LIMS Run #: 117281 ICAL Calibration #:.: 08032015

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Mercury	08/03/2015 13:15	BDL	U	0.05		0		CV	*INVALID*

CT LABORATORIES
delivering more than data from your environmental analyses

9

CVAA SERIAL DILUTION

Sample Description: **MYRTL-IDW-GW-01**

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: LIQUID SDG No.: 112835

Concentration Units: ug/L

Sample No.: 616502 Parent Sample No.: 612629

LIMS Run #: 117289 ICAL Calibration #:.: 08032015

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Mercury	08/03/2015 11:21	0.03	U	0.15	U	100		CV	*INVALID*

CT LABORATORIES
delivering more than data from your environmental analyses

10

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

ICP ID Number: TJA SDG No.: 112835

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (mg/L)	M
Arsenic	193.7			0.004	P
Barium	455.4			0.00029	P
Cadmium	226.502			0.0003	P
Chromium	267.716			0.0006	P
Lead	220.35			0.0014	P
Selenium	196.02			0.0022	P
Silver	328.068			0.0007	P

CT LABORATORIES
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10

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

ICP ID Number: TJA SDG No.: 112835

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Arsenic	193.7			4	P
Total Barium	455.4			0.29	P
Total Cadmium	226.502			0.3	P
Total Chromium	267.716			0.6	P
Total Lead	220.35			1.4	P
Total Selenium	196.02			2.2	P
Total Silver	328.068			0.7	P

CT LABORATORIES
delivering more than data from your environmental analyses

10

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (mg/L)	M
Mercury	253.7			0.00003	CV

CT LABORATORIES
delivering more than data from your environmental analyses

10

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Mercury	253.7			0.03	CV

CT LABORATORIES

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ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)

ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Ag 328.068 {103}	☒	1	Fe	0.000006
Al 308.215 {109}	☒	None		
Al 309.271 {109}	☒	None		
Al 396.152 { 85}	☒	None		
Al 167.079 {502}	☒	1	Fe	0.000627
As 193.759 {474}	☒	3	Fe	-0.000324
			Mo	0.000000
			Co	0.000000
As 189.042 {479}	☒	1	Fe	0.000027
Ba 455.403 { 74}	☒	1	Fe	-0.000000
Ba 493.409 { 68}	☒	1	Fe	0.000106
Be 313.042 {108}	☒	1	Fe	0.000000
Be 234.861 {144}	☒	1	Fe	0.000101
Ca 315.887 {107}	☒	None		
Ca 317.933 {106}	☒	None		
Ca 393.366 { 86}	☒	None		
Ca 396.847 { 85}	☒	None		
Cd 226.502 {449}	☒	2	Fe	0.000381
			Ag	-0.049000
Cd 228.802 {447}	☒	1	Fe	0.000100
Co 228.616 {447}	☒	6	Ti	-0.002110
			Mo	-0.001300
			Cr	-0.000235
			Ba	0.000315
			Ni	0.000000
			Fe	0.000017
Co 238.892 {141}	☒	1	Fe	0.000242
Cr 267.716 {126}	☒	1	Fe	0.000010
Cr 283.563 {119}	☒	1	Fe	0.000949
Cu 224.700 {450}	☒	2	Fe	0.000062
			Ag	-0.050000
Cu 324.754 {104}	☒	1	Fe	0.000200
Cu 327.396 {103}	☒	1	Fe	-0.000016
Fe 234.349 {144}	☒	None		
Fe 239.562 {141}	☒	None		
Fe 259.940 {130}	☒	None		
Mg 202.582 {466}	☒	None		
Mg 279.079 {121}	☒	None		
Mg 280.270 {120}	☒	None		
Mn 257.610 {131}	☒	1	Al	-0.000055
Mn 259.373 {130}	☒	1	Mg	0.001246
Mo 203.844 {465}	☒	1	Fe	-0.000027
Mo 202.030 {467}	☒	1	Fe	-0.000020
Mo 204.598 {465}	☒	1	Fe	-0.000100

CT LABORATORIES

delivering more than data from your environmental analyses

ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)

ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Ni 221.647 {452}	☒	1	Ca	0.000022
Ni 231.604 {445}	☒	4	Fe	0.000117
			Co	-0.050000
			Ag	-0.050000
			Mo	-0.000200
Pb 216.999 {455}	☒	2	Al	0.000478
			Na	0.000000
Pb 220.353 {153}	☒	1	Fe	0.000024
Pb 220.353 {453}	☒	9	Fe	0.000071
			Si	0.000940
			Tl	0.000640
			Cu	0.000370
			Ni	0.000109
			Al	0.000000
			Co	-0.000149
			Mn	0.000074
			Ti	0.000004
Sb 206.833 {463}	☒	1	Fe	0.000032
Sb 217.581 {455}	☒	1	Fe	-0.000048
Se 196.090 {172}	☒	1	Fe	-0.000205
Se 196.090 {472}	☒	1	Fe	0.000022
Se 206.279 {463}	☒	1	Fe	0.001119
Tl 276.787 {122}	☒	1	Mg	0.006492
Tl 190.856 {477}	☒	10	Ti	0.000050
			Al	-0.000002
			V	0.000586
			Mn	0.000398
			Mo	-0.000120
			Be	-0.000013
			Fe	-0.000033
			Sr	-0.000027
			Co	0.000016
			Cr	0.000251
V 290.882 {116}	☒	1	Fe	0.000170
V 292.402 {115}	☒	1	Fe	0.000041
Zn 206.200 {463}	☒	1	Fe	0.000173
Zn 213.856 {458}	☒	1	Fe	0.000380
Y 360.073 { 94}*	☒	None		
Na 330.298 {102}	☒	1	Fe	0.000991
Si 251.611 {134}	☒	1	Fe	-0.000042
Ti 334.941 {101}	☒	1	Fe	0.000050
Ti 337.280 {100}	☒	1	Fe	0.000006
Sr 407.771 { 83}	☒	1	Fe	0.000039
Sr 421.552 { 80}	☒	1	Fe	0.000039

ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)

ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Sn 189.989 {477}	☒	1	Fe	0.000011
Sn 283.999 {119}	☒	1	Fe	-0.003092
B 249.678 {135}	☒	1	Fe	-0.000918
B 249.773 {135}	☒	1	Fe	0.000199
Li 670.784 { 50}	☒	1	Fe	0.000029
K 766.490 { 44}	☒	1	Fe	0.006630

Element, Wavelength and Order	Use?	# IECs	IEC	k1
K 766.490 { 44}	☒	1	Fe	0.000178
Na 330.237 {102}	☒	1	Fe	-0.004289
Na 589.592 { 57}	☒	1	Fe	0.000173
Y 360.073 { 94}	☒	None		
Y 320.332 {105}*	☒	None		
Al 308.215 {109}	☒	1	Fe	0.000000
Al 396.152 { 85}	☒	None		
Mg 285.213 {118}	☒	None		
Ca 317.933 {106}	☒	None		
Fe 234.349 {144}	☒	None		

ICP LINEAR RANGES (QUARTERLY)

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

ICP ID Number: TA SDG No.: 112835

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Aluminum	15.00	1000000	P
Antimony	15.00	10000	P
Arsenic	15.00	10000	P
Barium	15.00	10000	P
Beryllium	15.00	1000	P
Boron	15.00	1000	P
Cadmium	15.00	1000	P
Calcium	15.00	1000000	P
Chromium	15.00	100000	P
Cobalt	15.00	10000	P
Copper	15.00	100000	P
Iron	15.00	1000000	P
Lead	15.00	100000	P
Lithium	15.00	10000	P
Magnesium	15.00	1000000	P
Manganese	15.00	100000	P
Molybdenum	15.00	10000	P
Nickel	15.00	10000	P
Potassium	15.00	200000	P
Selenium	15.00	10000	P
Silicon	15.00	1000	P
Silver	15.00	100	P
Sodium	15.00	200000	P
Strontium	15.00	10000	P
Thallium	15.00	10000	P
Tin	15.00	10000	P
Titanium	15.00	1000	P
Tungsten	15.00	10000	P
Vanadium	15.00	10000	P
Zinc	15.00	100000	P

CT LABORATORIES
delivering more than data from your environmental analyses

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PREPARATION LOG

Lab Name: CT Laboratories

Project: AMEC FOSTER WHEELER-MYRTLE BEACH

Method: EPA 3010A

SDG No.: 112835

Preparation Batch #: 53498

Preparation Date/Time: 07/29/2015 / 06:00

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
612629	Normal Sample	MYRTL-IDW-GW-01	GROUND WATER	50.0
612927	Method Blank		LIQUID	50.0
612928	Lab Control Spike		LIQUID	50.0
612929	Lab Duplicate	MYRTL-IDW-GW-01	GROUND WATER	50.0
612930	Matrix Spike	MYRTL-IDW-GW-01	GROUND WATER	50.0
612931	Matrix Spike Duplicate	MYRTL-IDW-GW-01	GROUND WATER	50.0

CT LABORATORIES
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PREPARATION LOG

Lab Name: CT Laboratories

Project: AMEC FOSTER WHEELER-MYRTLE BEACH

Method: EPA 3010A

SDG No.: 112835

Preparation Batch #: 53533

Preparation Date/Time: 07/30/2015 / 06:00

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
612627	Normal Sample	MYRTL-IDW-SO-01	TCLP	50.0
614589	Method Blank		LIQUID	50.0
614590	Lab Control Spike		LIQUID	50.0
614591	Lab Duplicate	MYRTL-IDW-SO-01	TCLP	50.0
614592	Matrix Spike	MYRTL-IDW-SO-01	TCLP	50.0
614593	Matrix Spike Duplicate	MYRTL-IDW-SO-01	TCLP	50.0

CT LABORATORIES
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PREPARATION LOG

Lab Name: CT Laboratories

Project: AMEC FOSTER WHEELER-MYRTLE BEACH

Method: EPA 7470A

SDG No.: 112835

Preparation Batch #: 53540

Preparation Date/Time: 07/31/2015 / 07:00

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
612627	Normal Sample	MYRTL-IDW-SO-01	TCLP	25.0
614624	Method Blank		LIQUID	25.0
614625	Lab Control Spike		LIQUID	25.0
614626	Lab Duplicate	MYRTL-IDW-SO-01	TCLP	25.0
614627	Matrix Spike	MYRTL-IDW-SO-01	TCLP	25.0
614628	Matrix Spike Duplicate	MYRTL-IDW-SO-01	TCLP	25.0

CT LABORATORIES
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PREPARATION LOG

Lab Name: CT Laboratories | Project: AMEC FOSTER WHEELER-MYRTLE BEACH

Method: EPA 7470A | SDG No.: 112835

Preparation Batch #: 53544 | Preparation Date/Time: 07/31/2015 / 07:00

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
612629	Normal Sample	MYRTL-IDW-GW-01	GROUND WATER	25.0
614643	Method Blank		LIQUID	25.0
614644	Lab Control Spike		LIQUID	25.0
614646	Lab Duplicate	MYRTL-IDW-GW-01	GROUND WATER	25.0
614647	Matrix Spike	MYRTL-IDW-GW-01	GROUND WATER	25.0
614648	Matrix Spike Duplicate	MYRTL-IDW-GW-01	GROUND WATER	25.0

CT LABORATORIES
delivering more than data from your environmental analyses

ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Lab Code: CTL

SDG No.: 112835

Instrument ID Number: TJA

Method Number: P

Start & End Date: 07/29/2015 to 07/29/2015

Analytical Run #: 117186

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
615840	ICV	1.00	7/29 13:55			X	X			X		X				X								X		X							
615841	ICVLL	1.00	7/29 14:00			X	X			X		X				X								X									
615842	ICB	1.00	7/29 14:10			X	X			X		X				X								X		X							
615844	ICSA	1.00	7/29 14:20	X		X	X			X	X	X			X	X	X							X		X							
615845	ICSAB	1.00	7/29 14:25	X		X	X			X	X	X			X	X	X							X		X							
616981	ICVLL	1.00	7/29 14:30																							X							
615847	CCV1	1.00	7/29 22:01			X	X			X		X				X								X		X							
615848	CCV2	1.00	7/29 22:06			X	X			X		X				X								X		X							
615849	CCB	1.00	7/29 22:11			X	X			X		X				X								X		X							
612928	LCSW	1.00	7/29 22:26			X	X			X		X				X								X		X							
612927	MBW	1.00	7/29 22:31			X	X			X		X				X								X		X							
612629	Initial	1.00	7/29 22:36			X	X			X		X				X								X		X							
615907	L	5	7/29 22:41			X	X			X		X				X								X		X							
612929	DUP	1.00	7/29 22:46			X	X			X		X				X								X		X							
612930	MSW	1.00	7/29 22:50			X	X			X		X				X								X		X							
612931	MSDW	1.00	7/29 22:55			X	X			X		X				X								X		X							
615908	PDSW	1.00	7/29 23:00			X	X			X		X				X								X		X							
615852	CCV1	1.00	7/29 23:05			X	X			X		X				X								X		X							
615853	CCV2	1.00	7/29 23:10			X	X			X		X				X								X		X							
615854	CCB	1.00	7/29 23:14			X	X			X		X				X								X		X							

CT LABORATORIES
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ANALYSIS RUN LOG

Lab Name: CT Laboratories
Contract: AMEC FOSTER WHEELER-MYRTLE BEACH
Lab Code: CTL
SDG No.: 112835
Instrument ID Number: TJA
Method Number: P
Start & End Date: 07/30/2015 to 07/31/2015
Analytical Run #: 117240

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
615694	ICV	1.00	7/30 13:28			X	X			X		X				X								X		X							
615695	ICVLL	1.00	7/30 13:33			X	X			X		X				X								X									
615696	ICB	1.00	7/30 13:43			X	X			X		X				X								X		X							
615698	ICSA	1.00	7/30 13:53	X		X	X			X	X	X			X	X	X							X		X							
615699	ICSAB	1.00	7/30 13:58	X		X	X			X	X	X			X	X	X							X		X							
615700	ICVLL	1.00	7/30 14:03																							X							
615701	CCV1	1.00	7/30 17:00			X	X			X		X				X								X		X							
615702	CCV2	1.00	7/30 17:05			X	X			X		X				X								X		X							
615703	CCB	1.00	7/30 17:10			X	X			X		X				X								X		X							
614590	LCSW	1.00	7/30 17:30			X	X			X		X				X								X		X							
614589	MBW	1.00	7/30 17:35			X	X			X		X				X								X		X							
612627	Initial	1.00	7/30 17:40			X	X			X		X				X								X		X							
615704	L	5	7/30 17:45			X	X			X		X				X								X		X							
614591	DUP	1.00	7/30 17:51			X	X			X		X				X								X		X							
614592	MSW	1.00	7/30 17:56			X	X			X		X				X								X		X							
614593	MSDW	1.00	7/30 18:01			X	X			X		X				X								X		X							
615705	CCV1	1.00	7/30 18:07			X	X			X		X				X								X		X							
615706	CCV2	1.00	7/30 18:12			X	X			X		X				X								X		X							
615707	CCB	1.00	7/30 18:16			X	X			X		X				X								X		X							
616127	ICV	1.00	7/31 14:01			X	X			X		X				X								X		X							
616128	ICVLL	1.00	7/31 14:06			X	X			X		X				X								X									
616129	ICB	1.00	7/31 14:16			X	X			X		X				X								X		X							
616130	ICSA	1.00	7/31 14:26	X		X	X			X	X	X			X	X	X							X		X							
616131	ICSAB	1.00	7/31 14:31	X		X	X			X	X	X			X	X	X							X		X							
616132	ICVLL	1.00	7/31 14:36																							X							
615708	PDSW	1.00	7/31 17:36			X	X			X		X				X								X		X							
616135	CCV1	1.00	7/31 17:41			X	X			X		X				X								X		X							
616133	CCV2	1.00	7/31 17:46			X	X			X		X				X								X		X							

CT LABORATORIES
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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Lab Code: CTL

SDG No.: 112835

Instrument ID Number: TJA

Method Number: P

Start & End Date: 07/30/2015 to 07/31/2015

Analytical Run #: 117240

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
616134	CCB	1.00	7/31 17:51			X	X			X		X				X								X		X						

CT LABORATORIES
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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Lab Code: CTL

SDG No.: 112835

Instrument ID Number: CETAC

Method Number: CV

Start & End Date: 08/03/2015 to 08/03/2015

Analytical Run #: 117281

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
616409	ICV	1.00	8/03 10:44																X													
616410	ICB	1.00	8/03 10:46																X													
616421	CCV	1.00	8/03 13:05																X													
616422	CCB	1.00	8/03 13:07																X													
614625	LCSW	1.00	8/03 13:09																X													
614624	MBW	1.00	8/03 13:11																X													
612627	Initial	1.00	8/03 13:13																X													
616423	L	5	8/03 13:15																X													
614626	DUP	1.00	8/03 13:17																X													
614627	MSW	1.00	8/03 13:19																X													
614628	MSDW	1.00	8/03 13:21																X													
616424	PDSW	1.00	8/03 13:23																X													
616425	CCV	1.00	8/03 13:29																X													
616426	CCB	1.00	8/03 13:31																X													

CT LABORATORIES
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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Lab Code: CTL

SDG No.: 112835

Instrument ID Number: CETAC

Method Number: CV

Start & End Date: 08/03/2015 to 08/03/2015

Analytical Run #: 117289

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
616498	ICV	1.00	8/03 10:44																X													
616499	ICB	1.00	8/03 10:46																X													
616500	CCV	1.00	8/03 11:07																X													
616501	CCB	1.00	8/03 11:09																X													
614644	LCSW	1.00	8/03 11:15																X													
612629	Initial	1.00	8/03 11:19																X													
616502	L	5	8/03 11:21																X													
614646	DUP	1.00	8/03 11:23																X													
614647	MSW	1.00	8/03 11:25																X													
614648	MSDW	1.00	8/03 11:27																X													
616503	PDSW	1.00	8/03 11:28																X													
616504	CCV	1.00	8/03 11:30																X													
616505	CCB	1.00	8/03 11:32																X													
616516	CCV	1.00	8/03 14:04																X													
616517	CCB	1.00	8/03 14:06																X													
614643	MBW	1.00	8/03 14:10																X													
616518	CCV	1.00	8/03 14:13																X													
616519	CCB	1.00	8/03 14:15																X													

INORGANIC
CLP FORMS
DOCUMENTS

CT LABORATORIES
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Sample Description

MYRTL-IDW-GW-01

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix (soil/water):	GROUND WATER	SDG No.:	112835
% Solids:		Lab Sample ID:	612629
Analytical Method:	EPA 1010	Date Received:	07/27/2015
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	117402	Analysis Date/Time	08/04/2015 10:30
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	Deg. F

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
FLASHPT	Flashpoint	>140.0					

CT LABORATORIES
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Sample Description

MYRTL-IDW-GW-01

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix (soil/water):	GROUND WATER	SDG No.:	112835
% Solids:		Lab Sample ID:	612629
Analytical Method:	EPA 9012A	Date Received:	07/27/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	117184	Analysis Date/Time	07/30/2015 10:33
Analytical Prep Batch #:	53508	Prep. Date/Time:	07/29/2015 09:10
ICAL Calibration #:	07302015	Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
57-12-5	Cyanide	5.0	U	5.0	12	24	24

CT LABORATORIES
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INORGANIC ANALYSIS DATA SHEET

Sample Description

MYRTL-IDW-GW-01

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix (soil/water):	GROUND WATER	SDG No.:	112835
% Solids:		Lab Sample ID:	612629
Analytical Method:	EPA 9040C	Date Received:	07/27/2015
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	117208	Analysis Date/Time	07/29/2015 13:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	6.77					

CT LABORATORIES
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INORGANIC ANALYSIS DATA SHEET

Sample Description

MYRTL-IDW-GW-01

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix (soil/water):	GROUND WATER	SDG No.:	112835
% Solids:		Lab Sample ID:	612629
Analytical Method:	EPA 9034	Date Received:	07/27/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	117148	Analysis Date/Time	07/28/2015 14:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
18496-25-8	Sulfide	1.0	U	1.0	1.0	1.0	1.0

CT LABORATORIES
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INORGANIC ANALYSIS DATA SHEET

Sample Description

MYRTL-IDW-SO-01

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix (soil/water):	SOIL	SDG No.:	112835
% Solids:	86.2	Lab Sample ID:	612628
Analytical Method:	EPA 1010A	Date Received:	07/27/2015
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	117402	Analysis Date/Time	08/04/2015 10:30
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	Deg. F

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
FLASHPT	Flashpoint	>140.0					

CT LABORATORIES
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Sample Description

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MYRTL-IDW-SO-01

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix (soil/water):	SOIL	SDG No.:	112835
% Solids:	86.2	Lab Sample ID:	612628
Analytical Method:	EPA 8000C	Date Received:	07/27/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	117196	Analysis Date/Time	07/29/2015 10:45
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	%

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
SOLID	Solids, Percent	86.2		0.1	0.1	0.1	0.1

CT LABORATORIES
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1

Sample Description

MYRTL-IDW-SO-01

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix (soil/water):	SOIL	SDG No.:	112835
% Solids:	86.2	Lab Sample ID:	612628
Analytical Method:	EPA 9045D	Date Received:	07/27/2015
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	117208	Analysis Date/Time	07/29/2015 13:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	12.07	X				

CT LABORATORIES
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Sample Description

MYRTL-IDW-SO-01

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix (soil/water):	SOIL	SDG No.:	112835
% Solids:	86.2	Lab Sample ID:	612628
Analytical Method:	EPA 9012A	Date Received:	07/27/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	117202	Analysis Date/Time	07/30/2015 14:02
Analytical Prep Batch #:	53516	Prep. Date/Time:	07/29/2015 12:00
ICAL Calibration #:	07302015	Concentration Units:	mg/kg

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
57-12-5	Cyanide	0.15	U	0.15	0.32	0.65	0.65

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117184 Lab Sample ID: 614723

ICAL Calibration #: 07292015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Cyanide	7/29/15 18:24	40.00	40.90	102	85	115

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117202 Lab Sample ID: 615055

ICAL Calibration #: 07302015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Cyanide	7/30/15 13:48	50.00	49.30	99	85	115

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117184 Lab Sample ID: 614709

ICAL Calibration #: 07302015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Cyanide	7/30/15 09:17	40.00	39.50	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117184 Lab Sample ID: 614711

ICAL Calibration #: 07302015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Cyanide	7/30/15	09:58	40.00	36.80	92	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117184

Lab Sample ID: 614713

ICAL Calibration #: 07302015

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Cyanide	7/30/15 10:39	40.00	38.40	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117184 Lab Sample ID: 614715

ICAL Calibration #: 07302015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Cyanide	7/30/15	10:56	40.00	40.80	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117202 Lab Sample ID: 615057

ICAL Calibration #: 07302015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Cyanide	7/30/15 13:52	50.00	54.60	109	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117202 Lab Sample ID: 615059

ICAL Calibration #: 07302015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Cyanide	7/30/15 14:05	50.00	53.90	108	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV DLL Std

2A-2

CONTINUING CALIBRATION VERIFICATION DISTILLED LOW-LEVEL STD

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117202

Lab Sample ID: 613999

ICAL Calibration #: 07302015

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Cyanide	7/30/15 13:58	0.500	0.533	107	85	115

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV DHL Std

2A-2

CONTINUING CALIBRATION VERIFICATION DISTILLED HIGH-LEVEL STD

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117202 Lab Sample ID: 613998

ICAL Calibration #: 07302015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Cyanide	7/30/15	13:56	1.88	2.03	108	85	115

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117184 Lab Sample ID: 614710

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 07302015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Cyanide	07/30/2015 09:20	1.290			12

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117184 Lab Sample ID: 614712

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 07302015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Cyanide	07/30/2015 10:02	4.040			12

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117184

Lab Sample ID: 614714

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: 07302015

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Cyanide	07/30/2015 10:43	5.060			12

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117184

Lab Sample ID: 614716

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: 07302015

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Cyanide	07/30/2015 11:00	0			12

** Detection Limit only reported if value was less than the control limit.

***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117202 Lab Sample ID: 615058

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 07302015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Cyanide	07/30/2015 13:53	0			25

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117202 Lab Sample ID: 615060

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 07302015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Cyanide	07/30/2015 14:06	0			25

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117148 Lab Sample ID: 613488

Analytical Prep Batch # Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Sulfide	07/28/2015 14:00	0	U	1.0	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117184 Lab Sample ID: 613865

Analytical Prep Batch # 53508 Preparation Date/Time: 07/29/2015 09:10

ICAL Calibration #: 07302015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Cyanide	07/30/2015 09:27	1.440	U	5	12

** Detection Limit only reported if value was less than the control limit.

***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

SDG No.: 112835

Analytical Run #: 117202 Lab Sample ID: 613996

Analytical Prep Batch # 53516 Preparation Date/Time: 07/29/2015 12:00

ICAL Calibration #: 07302015 Concentration Units: mg/kg

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Cyanide	07/30/2015 13:55	0.0475	U	0.14	0.30

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description: MYRTL-IDW-GW-01

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	LIQUID	SDG No.:	112835
% Solids for Sample:		Concentration Units:	ug/L
Sample No	613869	Parent Sample No.:	612629
Analytical Prep Batch #	53508	Analytical Preparation Date/Time:	07/29/2015 09:10
Analytical Run #:	117184	ICAL Calibration #:	07302015

Analysis Type: *Initial Analysis* Analysis Date: ----- 07/30/2015 Analysis Time: -------- 10:36

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Cyanide	83-116	38.1		BDL	U	40.0	95		AS

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **MYRTL-IDW-GW-01**

Lab Name:	CT Laboratories	Contract:	AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix:	LIQUID	SDG No.:	112835
% Solids for Sample:		Concentration Units:	ug/L
Sample No	613870	Parent Sample No.:	613869
Analytical Prep Batch #	53508	Analytical Preparation Date/Time:	07/29/2015 09:10
Analytical Run #:	117184	ICAL Calibration #:	07302015

Analysis Type: *Initial Analysis* Analysis Date: ----- 07/30/2015 Analysis Time: -------- 10:46

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Cyanide	83-116	35.5		BDL	U	40.0	89		AS

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

MYRTL-IDW-SO-01

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: SOLID

SDG No.: 112835

% Solid for Sample: 86.2

Concentration Units: %

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 117196

ICAL Calibration #:

Sample #: 614611

Parent Sample #: 612628

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Solids, Percent	07/29/2015	10:45	8	86.2		85.8		0		GRA

CT LABORATORIES
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6

DUPLICATES

Sample Description

MYRTL-IDW-SO-01

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: SOLID

SDG No.: 112835

% Solid for Sample: 86.2

Concentration Units: S.U.

Analytical Prep Batch #: 1

Analytical Preparation Date/Time:

Analytical Run #: 117208

ICAL Calibration #:

Sample #: 615120

Parent Sample #: 612628

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
pH	07/29/2015	13:00	1	12.07		12.15		1		ELEC

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6

DUPLICATES

Sample Description

MYRTL-IDW-GW-01

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: LIQUID

SDG No.: 112835

% Solid for Sample:

Concentration Units: S.U.

Analytical Prep Batch # 1

Analytical Preparation Date/Time

Analytical Run #: 117208

ICAL Calibration #:

Sample #: 615121

Parent Sample #: 612629

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
pH	07/29/2015	13:00	1	6.77		6.72		1		ELEC

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6

DUPLICATES

Sample Description

MYRTL-IDW-SO-01

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

Matrix: SOLID

SDG No.: 112835

% Solid for Sample: 86.2

Concentration Units: Deg. F

Analytical Prep Batch # 1

Analytical Preparation Date/Time

Analytical Run #: 117402

ICAL Calibration #:

Sample #: 617632

Parent Sample #: 612628

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Flashpoint	08/04/2015	10:30	5	>140.0		>140.0		0		

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **MYRTL-IDW-GW-01**

Lab Name: CT Laboratories
Contract: AMEC FOSTER WHEELER-MYRTLE BEACH
Matrix: LIQUID
SDG No.: 112835
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch #: 53508
Analytical Preparation Date/Time: 07/29/2015 09:10
Analytical Run #: 117184
ICAL Calibration #: 07302015
Sample #: 613870
Parent Sample #: 613869

Analysis Type: *Initial Analysis*

Analyte	Analysis Date/Tim	RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Cyanide	07/30/2015 10:46	20	38.1		35.5		7		AS

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract AMEC FOSTER WHEELER-MYRTLE BEACH

LCS Source: SPEX and Ultra SDG No.: 112835

Concentration Units: mg/L

Analytical Run #: 117148 Sample No.:#: 613487

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Sulfide	07/28/2015 14:00	80-120	4.400		5.000	88		TIT

CT LABORATORIES
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7-1

Sample No:

LCS

LABORATORY CONTROL SAMPLE - AQUEOUS

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

LCS Source: SPEX and Ultra

SDG No.: 112835

Concentration Units: Deg. F

Analytical Run #: 117402

Sample No.:#: 617631

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Flashpoint	08/04/2015 10:30	90-110	81.1		79.8	102		

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract AMEC FOSTER WHEELER-MYRTLE BEACH

LCS Source: SPEX and Ultra SDG No.: 112835

Concentration Units: ug/L

Analytical Run #: 117184 Sample No.:#: 613866

Analytical Prep Batch #: 53508 Preparation Date/Time: 07/29/2015 09:10

ICAL Calibration #: 07302015

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Cyanide	07/30/2015 09:38	83-116	43.90		40.00	110		AS

CT LABORATORIES
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7-2

Sample No:

LCS

LABORATORY CONTROL SAMPLE - SOLID

Lab Name: CT Laboratories

Contract: AMEC FOSTER WHEELER-MYRTLE BEACH

LCS Source: SPEX and Ultra

SDG No.: 112835

Concentration Units: Deg. F

Analytical Run #: 117402

Sample No.:#: 617630

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Flashpoint	08/04/2015 10:30	90-110	81.1		79.8	102		

CT LABORATORIES
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7-2

Sample No:

LABORATORY CONTROL SAMPLE - SOLID

LCS

Lab Name: CT Laboratories Contract AMEC FOSTER WHEELER-MYRTLE BEACH

LCS Source: SPEX and Ultra SDG No.: 112835

Concentration Units: mg/kg

Analytical Run #: 117202 Sample No.:#: 613997

Analytical Prep Batch #: 53516 Preparation Date/Time: 07/29/2015 12:00

ICAL Calibration #: 07302015

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Cyanide	07/30/2015 13:54	76-120	1.46		1.25	117		AS

SUBCONTRACTED ANALYSIS DOCUMENTS

Southeast ACCUTEST LABORATORIES

08/11/15



Technical Report for

CT Laboratories

Myrtle Beach; SC

112835

Accutest Job Number: FA26463

Sampling Date: 07/24/15

Report to:

CT Laboratories
1230 Lange Court
Baraboo, WI 53913
pletterer@ctlaboratories.com

ATTN: Patrick Letterer

Total number of pages in report: 27

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Heather Wandrey 407-425-6700

Certifications: FL (E83510), LA (03051), KS (E-10327), IA (366), IL (200063), NC (573), NJ (FL002), SC (96038001) DoD ELAP (L-A-B L2229), CA (2937), TX (T104704404), PA (68-03573), VA (460177), AK, AR, GA, KY, MA, NV, OK, UT, WA

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Sample Summary

CT Laboratories

Myrtle Beach; SC
Project No: 112835

Job No: FA26463

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA26463-1	07/24/15	12:00	CTL	07/29/15	SO	Soil	612628/MYRTL-IDW-SO-01
FA26463-2	07/24/15	12:00	CTL	07/29/15	SO	Soil	612627/MYRTL-IDW-SO-01
FA26463-3	07/24/15	12:00	CTL	07/29/15	AQ	Ground Water	612629/MYRTL-IDW-GW-01

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: CT Laboratories **Job No:** FA26463

Site: Myrtle Beach; SC **Report Date** 8/11/2015 8:04:02 AM

3 Samples were collected on 07/24/2015 and were received at Accutest SE on 07/29/2015 properly preserved, at 3 Deg. C and intact. These Samples received an Accutest job number of FA26463. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Extractables by GC By Method SW846 8151A

Matrix: AQ **Batch ID:** OP57063

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

OP57063-BS: Insufficient sample for MS/MSD.

FA26463-3: All hits confirmed by dual column analysis.

FA26463-3 for Dichloroprop: Primary and confirmation results differ by more than 40%. Lower value reported due to possible coelution.

Matrix: LEACHATE **Batch ID:** OP57147

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA26463-2MS, FA26463-2MSD, FA26489-1ADUP were used as the QC samples indicated.

Wet Chemistry By Method SM19 2540G

Matrix: SO **Batch ID:** GN67370

Sample(s) FA26463-1DUP was used as the QC samples for Solids, Percent.

Wet Chemistry By Method SM4500S2- F-11 M

Matrix: SO **Batch ID:** GP26437

All samples were prepped within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA26463-1MS, FA26463-1MSD were used as the QC samples for Sulfide.

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used

Narrative prepared by:

Date: August 11, 2015

Lovelie Metzgar, QA Officer (signature on file)

Summary of Hits

Job Number: FA26463
Account: CT Laboratories
Project: Myrtle Beach; SC
Collected: 07/24/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
FA26463-1	**612628/MYRTL-IDW-SO-01**					
Sulfide		19.9 J	26	3.0	mg/kg	SM4500S2- F-11 M
FA26463-2	**612627/MYRTL-IDW-SO-01**					
No hits reported in this sample.						
FA26463-3	**612629/MYRTL-IDW-GW-01**					
Dichloroprop [a]		0.20 J	0.50	0.16	ug/l	SW846 8151A

(a) All hits confirmed by dual column analysis. Primary and confirmation results differ by more than 40%. Lower value reported due to possible coelution.

Southeast ACCUTEST LABORATORIES

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Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	612628/MYRTL-IDW-SO-01		
Lab Sample ID:	FA26463-1	**Date Sampled:**	07/24/15
Matrix:	SO - Soil	**Date Received:**	07/29/15
		Percent Solids:	76.0
Project:	Myrtle Beach; SC		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Solids, Percent	76			%	1	08/03/15 18:40	FN	SM19 2540G
Sulfide	19.9 J	26	3.0	mg/kg	1	08/04/15 15:25	LE	SM4500S2- F-11 M

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	612627/MYRTL-IDW-SO-01		
Lab Sample ID:	FA26463-2	**Date Sampled:**	07/24/15
Matrix:	SO - Soil	**Date Received:**	07/29/15
Method:	SW846 8151A SW846 3510C	**Percent Solids:**	n/a
Project:	Myrtle Beach; SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CC048627.D	1	08/10/15	FS	08/08/15	OP57147	GCC872
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	5.0 ml
Run #2		

Herbicide TCLP Leachate **TCLP Leachate method SW846 1311**

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
94-75-7	2,4-D	0.0082 U	D016	10	0.050	0.0082	mg/l	
93-72-1	2,4,5-TP (Silvex)	0.0017 U	D017	1.0	0.0050	0.0017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	90%		39-135%

U = Not detected MDL = Method Detection Limit
MCL = Maximum Contamination Level (40 CFR 261 6/96)
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	612629/MYRTL-IDW-GW-01		
Lab Sample ID:	FA26463-3	**Date Sampled:**	07/24/15
Matrix:	AQ - Ground Water	**Date Received:**	07/29/15
Method:	SW846 8151A SW846 8151A	**Percent Solids:**	n/a
Project:	Myrtle Beach; SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	CC048566.D	1	08/03/15	FS	07/31/15	OP57063	GCC867
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	5.0 ml
Run #2		

Herbicide List

CAS No.	Compound	Result	RL	MDL	Units	Q
94-75-7	2,4-D	0.082 U	0.50	0.082	ug/l	
93-72-1	2,4,5-TP (Silvex)	0.017 U	0.050	0.017	ug/l	
93-76-5	2,4,5-T	0.011 U	0.050	0.011	ug/l	
1918-00-9	Dicamba	0.010 U	0.050	0.010	ug/l	
88-85-7	Dinoseb	0.25 U	1.0	0.25	ug/l	
75-99-0	Dalapon	0.50 U	1.3	0.50	ug/l	
120-36-5	Dichloroprop [b]	0.20	0.50	0.16	ug/l	J
94-82-6	2,4-DB	0.17 U	0.50	0.17	ug/l	
93-65-2	MCPP	5.6 U	50	5.6	ug/l	
94-74-6	MCPA	6.0 U	50	6.0	ug/l	
87-86-5	Pentachlorophenol	0.0050 U	0.050	0.0050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	75%		39-135%

(a) All hits confirmed by dual column analysis.
(b) Primary and confirmation results differ by more than 40%. Lower value reported due to possible coelution.

U = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Southeast ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions (DOD)
- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

Parameter Certification Exceptions

Job Number: FA26463
Account: CTLWIB CT Laboratories
Project: Myrtle Beach; SC

The following parameters included in this report are exceptions to DOD certification.
The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
Sulfide	18496-25-8	SM4500S2- F-11 M	SO	Accutest is not certified for this parameter.

FA26463

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 112835 ACCTST FL *The PO# must appear on all invoice and reports!*

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: Accutest Southeast
4405 Vineland Road, Suite C-15
Orlando, FL 32811

Return Invoice and Results to: pletterer@ctlaboratories.com

CTLaboratories
Pat Letterer
1230 Lange Court
Baraboo WI 53913

PML 07-28-15

Date Due: 08/10/2015 *RUSH TURNAROUND NEEDED? Y or N (Circle One)*

Project Name: MYRTLE BEACH **Project State:** SC

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM) NELAP (Circle one) OTHER

Report results as EDD? N (Y) (Circle one and indicate type: ERPIMS) Data Deliverable Package LEVEL: AMEC IIA

	CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method		Cost
1	612628	7/24/2015 1200	SOIL	MYRTL-IDW-SO-01	SULFIDE	9030	
2	612627	7/24/2015 1200	TCLP	MYRTL-IDW-SO-01	HERBICIDES	SW8151	
3	612629	7/24/2015 1200	GROUND WATER	MYRTL-IDW-GW-01	HERBICIDES	SW8151	

Relinquished by: _____ Date/Time: 7/28/15 1317

Received by: FX / FP 07-29-15 1015 Date/Time: _____ Receipt Temperature (C) 3.0

COMMENTS:

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

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FA26463: Chain of Custody
Page 1 of 3

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: FA26463 CLIENT: CT lab PROJECT: Myrtle Beach

DATE/TIME RECEIVED: 07-29-15 1015 {MM/DD/YY 24:00} NUMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER DELIVERY OTHER:

AIRBILL NUMBERS: 6341 1666 8021

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [ ] TRIP BLANK NOT PROVIDED
- [ ] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM_____ 5-GRAM_____

NUMBER OF 5035 FIELD KITS ? _____

NUMBER OF LAB FILTERED METALS ? _____

TEMPERATURE INFORMATION

- [ ] IR THERM ID 1 CORR. FACTOR -0.2
- [ ] OBSERVED TEMPS: 3.2
- [ ] CORRECTED TEMPS: 3.0

SAMPLE INFORMATION

- [X] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
- [ ] BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] RESIDUAL CHLORINE PRESENT LOT#_____

{APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

pH PAPER LOT#s WIDE RANGE A036122 NARROW RANGE HC421754 OTHER (specify) 405-230010

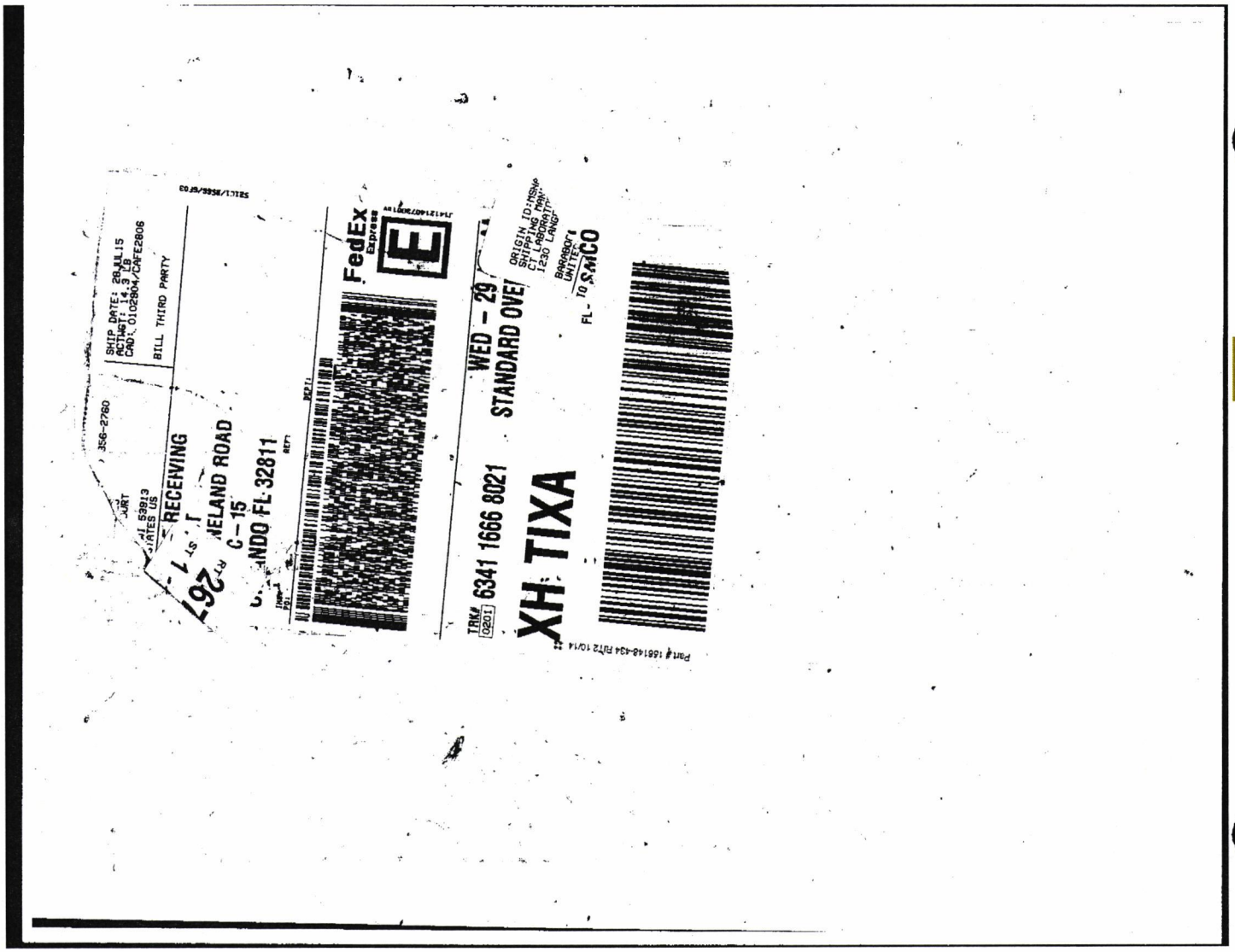
SUMMARY OF COMMENTS: 1 Amber (8151) Sample #3

TECHNICIAN SIGNATURE/DATE RW 07-30-15 REVIEWER SIGNATURE/DATE JE 7-30-15

NF 10/14 receipt confirmation 102914.xls

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FA26463: Chain of Custody
Page 2 of 3



FA26463: Chain of Custody
Page 3 of 3

QC Evaluation: DOD QSM5 Limits

Job Number: FA26463
Account: CT Laboratories
Project: Myrtle Beach; SC
Collected: 07/24/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP57063	SW846 8151A						
OP57063-BS	94-75-7	2,4-D	BSP	REC	76	%	45-152
OP57063-BS	93-72-1	2,4,5-TP (Silvex)	BSP	REC	72	%	51-134
OP57063-BS	93-76-5	2,4,5-T	BSP	REC	68	%	42-147
OP57063-BS	1918-00-9	Dicamba	BSP	REC	72	%	50-141
OP57063-BS	75-99-0	Dalapon	BSP	REC	42	%	19-139
OP57063-BS	120-36-5	Dichloroprop	BSP	REC	96	%	46-159
OP57063-BS	94-82-6	2,4-DB	BSP	REC	84	%	35-153
OP57063-BS	93-65-2	MCPP	BSP	REC	76	%	33-157
OP57063-BS	94-74-6	MCPA	BSP	REC	74	%	35-144
OP57063-BS	87-86-5	Pentachlorophenol	BSP	REC	104	%	56-139
OP57063-BS	19719-28-9	2,4-DCAA (sig#1)	BSP	SURR	82	%	32-138
OP57063-MB	19719-28-9	2,4-DCAA (sig#1)	MB	SURR	65	%	32-138
FA26463-3	19719-28-9	2,4-DCAA (sig#1)	SAMP	SURR	75	%	32-138

* Sample used for QC is not from job FA26463

Southeast ACCUTEST LABORATORIES

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: FA26463
Account: CTLWIB CT Laboratories
Project: Myrtle Beach; SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP57063-MB	CC048564.D	1	08/03/15	FS	07/31/15	OP57063	GCC867

The QC reported here applies to the following samples: **Method:** SW846 8151A

FA26463-3

CAS No.	Compound	Result	RL	MDL	Units	Q
94-75-7	2,4-D	ND	0.50	0.082	ug/l	
93-72-1	2,4,5-TP (Silvex)	ND	0.050	0.017	ug/l	
93-76-5	2,4,5-T	ND	0.050	0.011	ug/l	
1918-00-9	Dicamba	ND	0.050	0.010	ug/l	
88-85-7	Dinoseb	ND	1.0	0.25	ug/l	
75-99-0	Dalapon	ND	1.3	0.50	ug/l	
120-36-5	Dichloroprop	ND	0.50	0.16	ug/l	
94-82-6	2,4-DB	ND	0.50	0.17	ug/l	
93-65-2	MCPP	ND	50	5.6	ug/l	
94-74-6	MCPA	ND	50	6.0	ug/l	
87-86-5	Pentachlorophenol	ND	0.050	0.0050	ug/l	

CAS No.	Surrogate Recoveries		Limits
19719-28-9	2,4-DCAA	65%	39-135%

Leachate Blank Summary

Job Number: FA26463
Account: CTLWIB CT Laboratories
Project: Myrtle Beach; SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP57147-LB	CC048624.D	1	08/10/15	FS	08/08/15	OP57147	GCC872

The QC reported here applies to the following samples: **Method:** SW846 8151A

FA26463-2

CAS No.	Compound	Result	RL	MDL	Units	Q
94-75-7	2,4-D	ND	50	8.2	ug/l	
93-72-1	2,4,5-TP (Silvex)	ND	5.0	1.7	ug/l	

CAS No.	Surrogate Recoveries		Limits
19719-28-9	2,4-DCAA	92%	39-135%

Blank Spike Summary

Job Number: FA26463
Account: CTLWIB CT Laboratories
Project: Myrtle Beach; SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP57063-BS [a]	CC048563.D	1	08/03/15	FS	07/31/15	OP57063	GCC867

The QC reported here applies to the following samples: **Method:** SW846 8151A

FA26463-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
94-75-7	2,4-D	2.5	1.9	76	58-128
93-72-1	2,4,5-TP (Silvex)	0.25	0.18	72	57-134
93-76-5	2,4,5-T	0.25	0.17	68	58-135
1918-00-9	Dicamba	0.25	0.18	72	63-138
88-85-7	Dinoseb	1.25	0.78	62	11-115
75-99-0	Dalapon	6.25	2.6	42	15-115
120-36-5	Dichloroprop	2.5	2.4	96	70-148
94-82-6	2,4-DB	2.5	2.1	84	60-126
93-65-2	MCPP	250	190	76	55-123
94-74-6	MCPA	250	186	74	55-121
87-86-5	Pentachlorophenol	0.25	0.26	104	62-122

CAS No.	Surrogate Recoveries	BSP	Limits
19719-28-9	2,4-DCAA	82%	39-135%

(a) Insufficient sample for MS/MSD.

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA26463
Account: CTLWIB CT Laboratories
Project: Myrtle Beach; SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP57147-LBS	CC048625.D	1	08/10/15	FS	08/08/15	OP57147	GCC872

The QC reported here applies to the following samples: **Method:** SW846 8151A

FA26463-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
94-75-7	2,4-D	250	217	87	58-128
93-72-1	2,4,5-TP (Silvex)	25	22.7	91	57-134

CAS No.	Surrogate Recoveries	BSP	Limits
19719-28-9	2,4-DCAA	93%	39-135%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA26463
Account: CTLWIB CT Laboratories
Project: Myrtle Beach; SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP57147-MS	CC048628.D	1	08/10/15	FS	08/08/15	OP57147	GCC872
OP57147-MSD	CC048629.D	1	08/10/15	FS	08/08/15	OP57147	GCC872
FA26463-2	CC048627.D	1	08/10/15	FS	08/08/15	OP57147	GCC872

The QC reported here applies to the following samples: **Method:** SW846 8151A

FA26463-2

CAS No.	Compound	FA26463-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
94-75-7	2,4-D	50	U	250	223	89	250	208	83	7	58-128/28
93-72-1	2,4,5-TP (Silvex)	5.0	U	25	20.2	81	25	20.6	82	2	57-134/28

CAS No.	Surrogate Recoveries	MS	MSD	FA26463-2	Limits
19719-28-9	2,4-DCAA	92%	96%	90%	39-135%

* = Outside of Control Limits.

Duplicate Summary

Job Number: FA26463
Account: CTLWIB CT Laboratories
Project: Myrtle Beach; SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP57147-DUP	CC048631.D	1	08/10/15	FS	08/08/15	OP57147	GCC872
FA26489-1A	CC048630.D	1	08/10/15	FS	08/08/15	OP57147	GCC872

The QC reported here applies to the following samples: **Method:** SW846 8151A

FA26463-2

CAS No.	Compound	FA26489-1A ug/l	Q	DUP ug/l	Q	RPD	Limits
94-75-7	2,4-D	ND		ND		nc	28
93-72-1	2,4,5-TP (Silvex)	ND		ND		nc	28

CAS No.	Surrogate Recoveries	DUP	FA26489-1A Limits
19719-28-9	2,4-DCAA	88%	99% 39-135%

* = Outside of Control Limits.

Southeast ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: FA26463
Account: CTLWIB - CT Laboratories
Project: Myrtle Beach; SC

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Sulfide	GP26437/GN67386	20	0.0	mg/kg	120	119	99.2	75-125%

Associated Samples:
Batch GP26437: FA26463-1
(*) Outside of QC limits

7.1

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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: FA26463
Account: CTLWIB - CT Laboratories
Project: Myrtle Beach; SC

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Solids, Percent	GN67370	FA26463-1	%	76	74.8	1.6	0-5%

Associated Samples:
Batch GN67370: FA26463-1
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: FA26463
Account: CTLWIB - CT Laboratories
Project: Myrtle Beach; SC

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Sulfide	GP26437/GN67386	FA26463-1	mg/kg	19.9	157	207	119.0	75-125%

Associated Samples:
Batch GP26437: FA26463-1
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: FA26463
Account: CTLWIB - CT Laboratories
Project: Myrtle Beach; SC

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Sulfide	GP26437/GN67386	FA26463-1	mg/kg	19.9	158	208	0.7	

Associated Samples:
Batch GP26437: FA26463-1
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

7.4

7

CHAIN OF CUSTODY,
PM CONFIRMATION
AND
SAMPLE CONDITION FORMS
DOCUMENTS

Scanned by CamScanner
Page 305

amec foster wheeler

Amec Foster Wheeler Environment & Infrastructure, Inc.
10870 White Rock Road, Suite 100
Rancho Cordova, CA. 95670
(916) 853-8929

SHIP TO:
CT Laboratories
1230 Lange Court
Baraboo, WI 53913
Attn: Patrick Letterer
Lab Phone# (608) 356-2760

CHAIN OF CUSTODY

DATE: 24Jul 15
COC #: MYRTL-IDW-001
PAGE: 1 OF 1

Project Number: 7128801.77 | Phone Number: | Sampler: Site Rep, 1/1 MB Road | Shipment Method: FLEX

Sample Information

No.	Sample ID	Date & Time Sampled	Matrix	Sample Type	MS/MSD
1	MYRTL-IDW-SO-01	1200 24 Jul 15	SO	N	N
2	MYRTL-IDW-GW-01	1200 24 Jul 15	W	N	N
3	~~MYRTL-IDW-SO-01TB~~	24Jul15 1200	W	TB	N
4	MYRTL-IDW-GW-01TB				
5					
6					
7					
8					
9					
10					
11					
12					

Methods for Analysis

No.	TCLP VOCs	TCLP SVOCs	TCLP RCRA 8 Metals	TCLP Pesticides	TCLP Herbicides	PCB Aroclors	GRO	DRO/RRO	Flash Point	pH	Sulfide	Cyanide	VOCs	SVOCs	RCRA 8 Metals	Pesticides	Herbicides	NUSH				
1	X	X	X	X	X	X	X	X	X	X	X	X						012602761628			3	
2							X	X	X	X	X	X	X	X	X	X	X	012602761629			3	
3													X					012602761630			1	
4																						

Sampler's Signature: [signature] Date: 24Jul15 Time: 1400
Relinquished By/Affiliation: Andrew Smith AmecF-W Date: 24Jul15 Time: 1400
Received By: Fed Ex Date: 24Jul15 Time: 1400
Relinquished By/Affiliation: Date: Time:
Received By: DL CT Labs Date: 7/25/15 Time: 1149
Relinquished By/Affiliation: Date: Time:
Received By (LAB): Date: Time:

For Lab Use

Does COC match samples	Y or N
Broken Container	Y or N
COC seal intact	Y or N
Other problems	Y or N
WSDOT contacted	Y or N
Date contacted	
Cooler Temperature at receipt:	2.9 °C

Comments:
X=Analyze H=Hold Analysis Request
TB = trip blank

NUMBER OF COOLERS SENT: 1 5188

IRGUN11
~~CT~~ TKR 7/27/15 1515

Folder #: 112835
Company: AMEC FOSTER WHEEL
Project: AFCEC BRAC
Logged By: TKR PM: PM

Rev 8/2014

CHAIN OF CUSTODY

Page _____ of _____

Company:
Project Contact:
Telephone:
Project Name:
Project #:
Location:
Sampled By:

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:

112835

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL:
Company:
Address:

Invoice To:*
EMAIL:
Company:
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: VOC 8260 QSM5.0	GRO 8015 QSM 5.0	SVOC 8270	DRO 8015 QSM5	VOC 8260 TCLP 5.0	TCLP- SVOC PEST RCRA Met. Herb	Pesticides QSM 5	PCB QSM 5	TCP Total QSM 5.0	Cyanide, total	SUB Herbicides	Sulfide QSM	Flashpoint/pH			Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test																		

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By:	Date/Time	Received By:	Date/Time
		DL	7/25/15 1149
Received by:	Date/Time	Received for Laboratory by:	Date/Time
		TLK	7/24/15 1515

Lab Use Only
Ice Present (Yes) No
Temp 2.9° IR Gun # 11
Cooler # 5188

12457476
775 290 177.
0003.0508

CT Laboratories T[illegible]d Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated cont[illegible] the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient specification to enable CTL to carry out the Client's requirements. It is the policy of CT Laboratories that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (1) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (2) be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it will be rejected and the client will be contacted for further instructions or resampling. (3) be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CT Laboratories can provide a sampling guide containing approved containers and preservations for analytical methods requested. (4) adhere to specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CT Laboratories will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (5) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample will be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling.

1.2 CT Laboratories must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at their own expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s).

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices

Cooler Receipt Form

Ice Present YES NO

Temperature 2.9

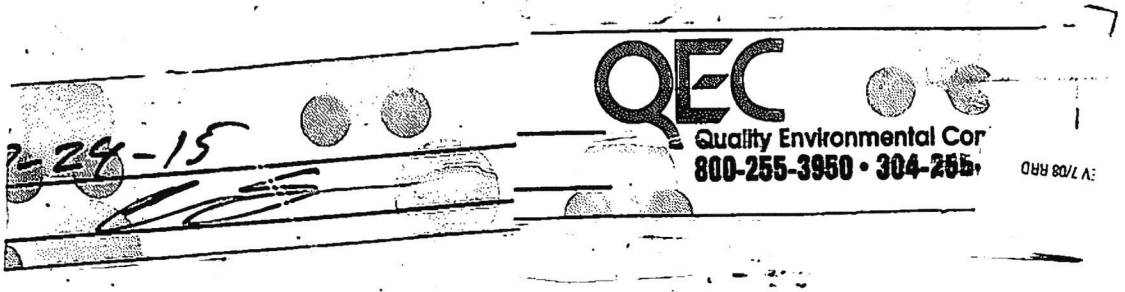
IR Gun # 11

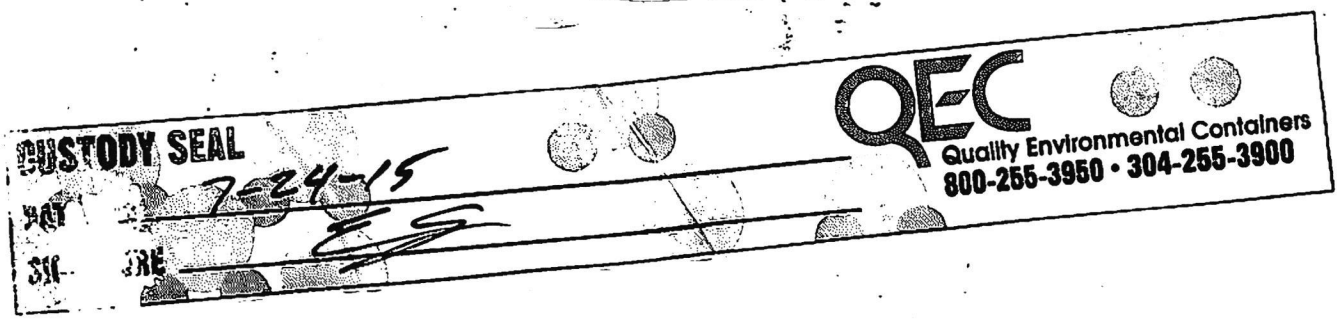
Initials DR

Date 7/25/15 Time 11:49

Cooler #: 5.88







FedEx Express **NEW** Package *US Airbill*

FedEx Tracking Number **8081 8399 9907**

841335 07/24 5393J/1A15/3100

Form 0200

From

Date

Sender's Name

Phone

Company

Address

Dept./Floor/Suite/Room

City State ZIP

2 Your Internal Billing Reference 775290177.0003.03008

3 To ATTN: PATRICK LETTERER

Recipient's Name

Phone 608 356 2760

Company CT LABORATORIES

Address 1230 LANGE COURT

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Dept./Floor/Suite/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

BARABOO State WI ZIP 53913

HOLD Weekday
FedEx location address REQUIRED. NOT available for FedEx First Overnight.

HOLD Saturday
FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

4 Express Package Service * To most locations.

NOTE: Service order has changed. Please select carefully.

Packages up to 150 lbs.
For packages over 150 lbs., use the new FedEx Express Freight US Airbill.

Next Business Day

- [X] **FedEx First Overnight** Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] **FedEx Priority Overnight** Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] **FedEx Standard Overnight** Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

- [ ] **FedEx 2Day A.M.** Second business morning.* Saturday Delivery NOT available.
- [ ] **FedEx 2Day** Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] **FedEx Express Saver** Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

[ ] FedEx Envelope* [ ] FedEx Pak* [ ] FedEx Box [ ] FedEx Tube [X] Other

6 Special Handling and Delivery Signature Options

[X] **SATURDAY Delivery** NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

[ ] **No Signature Required** Package may be left without obtaining a signature for delivery.

[ ] **Direct Signature** Someone at recipient's address may sign for delivery. Fee applies.

[ ] **Indirect Signature** If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. Fee applies.

Does this shipment contain dangerous goods?

One box must be checked.

[X] No [ ] Yes As per attached Shipper's Declaration [ ] Yes Shipper's Declaration not required [ ] Dry Ice Dry Ice, 9, UN 1845 ____ x ____ kg

[ ] Cargo Aircraft Only

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

7 Payment *Bill to:*

Enter FedEx Acct. No. or Credit Card No. below.

Obtain recip Acct. No. [ ]

[X] Sender Acct. No. in Section 1 will be billed. [ ] Recipient [ ] Third Party [ ] Credit Card [ ] Cash/Check

Credit Card Auth.

Total Packages 1 Total Weight 60 lbs

†Our liability is limited to US$100 unless you declare a higher value. See the current FedEx Service Guide for details.

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8081 8399 9907

64

Folder #: 112835

PM LOGIN CONFIRMATION

Contract #: 2805

Company: AMEC FOSTER WHEELER **Project:** MYRTLE BEACH **Proj #:** 775290177

Project Phase: **PO Number:** WO #F013900715 **Invoice #:** 113325

Project Manager: *PML* **Date Received:** 07/27/15 **Log Date:** 07/27/2015

Report To: MELISSA HELTON CC:
10670 WHITE ROCK ROAD
SUITE 100
RANCHO CORDOVA, CA 95670
Phone: : Fax:
Rep. E-Mail

Collected By:
Collector's Phone:

Invoice To :TINA MARIE HEBERT CC:
QUORUM OFFICE PARK
271 MILL ROAD
CHELMSFORD, MA 01824
Phone: Fax:
EMail:

Arrival Temperature: 2.9 oC

SAMPLE #: 612627 DESCR: MYRTL-IDW-SO-01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / TCLP **SAMPLED: 7/24/2015 Time: 1200**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
292	SUB HERBICIDES	(SW8151)					8/5/2015		NeedExt
1051	PESTICIDES QSM TCLP	(EPA 8081B)					8/5/2015		NeedExt
1192	ICP QSM TCLP 5.0	(EPA 6010C)				1/20/2016	8/5/2015		NeedExt
			Arsenic						
			Barium						
			Cadmium						
			Chromium						
			Lead						
			Selenium						
			Silver						
1207	MERCURY QSM TCLP 5.0	(EPA 7470A)				8/21/2015	8/5/2015		NeedExt
1223	VOC 8260 QSM TCLP 5.0	(EPA 8260C)					8/5/2015		NeedExt
1247	SVOC 8270 QSM 5 TCLP	(EPA 8270D)					8/5/2015		NeedExt

C:\LIMSREPS\CONFIRMATION.RPT

Folder #: 112835 **Company:** *AMEC FOSTER WHEELER* **Project:** MYRTLE BEACH

SAMPLE #: 612628 **DESCR:** MYRTL-IDW-SO-01 **PRIMARY / DETAILED MATRIX:** SOLID / SOIL **SAMPLED:** 7/24/2015 **Time:** 1200

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
8	SOLIDS,PERCENT	(EPA 8000C)				8/7/2015	8/5/2015		Logged
203	PH	(EPA 9045D)					8/5/2015		Logged
605	SUB SULFIDE	(9030)				8/7/2015	8/5/2015		Logged
618	FLASHPOINT	(EPA 1010A)				8/3/2015	8/5/2015		Logged
871	CYANIDE QSM	(EPA 9012A)					8/5/2015		NeedPrep
1218	GRO 8015 QSM 5.0	(EPA 8015C)				8/7/2015	8/5/2015		NeedPrep
1236	PCB QSM 5	(EPA 8082A)					8/5/2015		NeedPrep
1245	DRO/ERO 8015 QSM 5	(EPA 8015C)					8/5/2015		NeedPrep

SAMPLE #: 612629 **DESCR:** MYRTL-IDW-GW-01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 7/24/2015 **Time:** 1200

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
203	PH	(EPA 9040C)					8/5/2015		Logged
292	SUB HERBICIDES	(SW8151)					8/5/2015		Logged
618	FLASHPOINT	(EPA 1010)				8/3/2015	8/5/2015		Logged
871	CYANIDE QSM	(EPA 9012A)					8/5/2015		NeedPrep
996	SULFIDE QSM	(EPA 9034)				7/31/2015	8/5/2015		Logged
1200	ICP TOTAL QSM 5.0	(EPA 6010C)				1/20/2016	8/5/2015		NeedPrep
			Total Arsenic						
			Total Barium						
			Total Cadmium						
			Total Chromium						
			Total Lead						
			Total Selenium						
			Total Silver						
1208	MERCURY TOTAL QSM 5.0	(EPA 7470A)				8/21/2015	8/5/2015		NeedPrep
1218	GRO 8015 QSM 5.0	(EPA 8015C)				8/7/2015	8/5/2015		Logged

Folder #: 112835 **Company:** *AMEC FOSTER WHEELER* **Project:** MYRTLE BEACH

SAMPLE #: 612629 **DESCR:** MYRTL-IDW-GW-01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 7/24/2015 **Time:** 1200

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	8/7/2015	8/5/2015		Logged
1236	PCB QSM 5	(EPA 8082A)					8/5/2015		NeedPrep
1237	PESTICIDES QSM 5	(EPA 8081B)					8/5/2015		NeedPrep
1238	SVOC 8270 QSM 5	(EPA 8270D)			*Y*		8/5/2015		NeedPrep
1245	DRO/ERO 8015 QSM 5	(EPA 8015C)					8/5/2015		NeedPrep

SAMPLE #: 612630 **DESCR:** MYRTL-IDW-GW-01TB **PRIMARY / DETAILED MATRIX:** AQUEOUS / TRIP BLANK **SAMPLED:** 7/24/2015

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	8/7/2015	8/5/2015		Logged

Folder #: 112835 **Company:** *AMEC FOSTER WHEELER* **Project:** MYRTLE BEACH

Invoice Number: 113325 **Preliminary Invoice Estimate:** $ 1,565.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
CYANIDE QSM	GROUND WATER	1	$ 25.00	0.00	$ 25.00
CYANIDE QSM	SOIL	1	$ 25.00	0.00	$ 25.00
DRO/ERO 8015 QSM 5	GROUND WATER	1	$ 40.00	0.00	$ 40.00
DRO/ERO 8015 QSM 5	SOIL	1	$ 40.00	0.00	$ 40.00
FLASHPOINT	GROUND WATER	1	$ 40.00	0.00	$ 40.00
FLASHPOINT	SOIL	1	$ 40.00	0.00	$ 40.00
GRO 8015 QSM 5.0	GROUND WATER	1	$ 35.00	0.00	$ 35.00
GRO 8015 QSM 5.0	SOIL	1	$ 35.00	0.00	$ 35.00
ICP QSM TCLP 5.0 Arsenic	TCLP	1	$ 7.00	0.00	$ 7.00
ICP QSM TCLP 5.0 Barium	TCLP	1	$ 7.00	0.00	$ 7.00
ICP QSM TCLP 5.0 Cadmium	TCLP	1	$ 7.00	0.00	$ 7.00
ICP QSM TCLP 5.0 Chromium	TCLP	1	$ 7.00	0.00	$ 7.00
ICP QSM TCLP 5.0 Lead	TCLP	1	$ 7.00	0.00	$ 7.00
ICP QSM TCLP 5.0 Selenium	TCLP	1	$ 7.00	0.00	$ 7.00
ICP QSM TCLP 5.0 Silver	TCLP	1	$ 7.00	0.00	$ 7.00
ICP TOTAL QSM 5.0 Total Arsenic	GROUND WATER	1	$ 7.00	0.00	$ 7.00
ICP TOTAL QSM 5.0 Total Barium	GROUND WATER	1	$ 7.00	0.00	$ 7.00
ICP TOTAL QSM 5.0 Total Cadmium	GROUND WATER	1	$ 7.00	0.00	$ 7.00
ICP TOTAL QSM 5.0 Total Chromium	GROUND WATER	1	$ 7.00	0.00	$ 7.00
ICP TOTAL QSM 5.0 Total Lead	GROUND WATER	1	$ 7.00	0.00	$ 7.00
ICP TOTAL QSM 5.0 Total Selenium	GROUND WATER	1	$ 7.00	0.00	$ 7.00
ICP TOTAL QSM 5.0 Total Silver	GROUND WATER	1	$ 7.00	0.00	$ 7.00
MERCURY QSM TCLP 5.0	TCLP	1	$ 21.00	0.00	$ 21.00
MERCURY TOTAL QSM 5.0	GROUND WATER	1	$ 21.00	0.00	$ 21.00
PCB QSM 5	GROUND WATER	1	$ 55.00	0.00	$ 55.00
PCB QSM 5	SOIL	1	$ 55.00	0.00	$ 55.00
PESTICIDES QSM 5	GROUND WATER	1	$ 70.00	0.00	$ 70.00
PESTICIDES QSM TCLP	TCLP	1	$ 70.00	0.00	$ 70.00
PH	GROUND WATER	1	$ 10.00	0.00	$ 10.00

PH	SOIL	1	$ 10.00	0.00	$ 10.00
SOLIDS,PERCENT	SOIL	1	$ 0.00	0.00	$ 0.00
SUB HERBICIDES	GROUND WATER	1	$ 125.00	0.00	$ 125.00
SUB HERBICIDES	TCLP	1	$ 125.00	0.00	$ 125.00
SUB SULFIDE	SOIL	1	$ 35.00	0.00	$ 35.00
SULFIDE QSM	GROUND WATER	1	$ 35.00	0.00	$ 35.00
SVOC 8270 QSM 5	GROUND WATER	1	$ 135.00	0.00	$ 135.00
SVOC 8270 QSM 5 TCLP	TCLP	1	$ 135.00	0.00	$ 135.00
TCLP Extract		1	$ 40.00	0.00	$ 40.00
TCLP ZHE EXT.		1	$ 40.00	0.00	$ 40.00
VOC 8260 QSM 5.0	GROUND WATER	1	$ 55.00	0.00	$ 55.00
VOC 8260 QSM 5.0	TRIP BLANK	1	$ 55.00	0.00	$ 55.00
VOC 8260 QSM TCLP 5.0	TCLP	1	$ 95.00	0.00	$ 95.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
AMBER GL	**7**	8270,DRO,HERB,PCB,PEST
HNO3	**1**	HG,ICP
MEOH TARED	**3**	VOC
NAOH PL	**1**	CYN
NAOH W/ZNAC	**1**	SLFD
SOLIDS	**1**	HG,ICP
UNPRES GL	**4**	8270,PEST
UNPRES PL	**1**	FLASH,pH
VOA HCL	**6**	GRO,VOC

CT LABORATORIES

delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 112835
Client: AMEC FOSTER WHEELER

Print Date / Time: 07/27/2015 15:13
Received Date / Time / By: 07/25/2015 1149 DJL

Project Name: MYRTLE BEACH
Project Phase:

Log-In Date / Time / By: 07/27/2015 1515 TKR
Project #: 775290177 PM: PML

Coolers: 5188
Custody Seals Present : **Y**

Temperature: 2.9 C On Ice: **Y**
COC Present:? **Y** Complete? **N**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 8081 8399 9907
Temp Blank Enclosed? **Y**

Notes: SAMPLES RECEIVED IN GOOD CONDITION ON ICE.

2 CUSTODY SEALS PRESENT AND INTACT ON COOLER, DATED AND SIGNED. 1 CUSTODY SEAL DAMAGED BY LOGIN AT TIME OF RECEIPT.

COC WAS NOT FILLED OUT BY CLIENT. CLIENT WAS CONTACTED AND SENT A NEW COC TO BE USED FOR LOGIN.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
612627 MYRTL-IDW-SO-01				
	UNPRES GL	1	/	8270,PEST
	Total # of Containers of Type	(***UNPRES GL***) = **1**		
612627 MYRTL-IDW-SO-01				
	SOLIDS	1	/	HG,ICP
	Total # of Containers of Type	(***SOLIDS***) = **1**		
612627 MYRTL-IDW-SO-01				
	UNPRES GL	1	/	SUB HERB
	Total # of Containers of Type	(***UNPRES GL***) = **1**		
612627 MYRTL-IDW-SO-01				
	MEOH TARED	1	/	VOC
	MEOH TARED	1	/	VOC
	MEOH TARED	1	/	VOC
	Total # of Containers of Type	(***MEOH TARED***) = **3**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
612628 MYRTL-IDW-SO-01				
	UNPRES GL	1	/	DRO,GRO,PCB,FLASH
	Total # of Containers of Type	(***UNPRES GL***) = **1**		
612628 MYRTL-IDW-SO-01				
	UNPRES GL	1	/	SUB SULFIDE
	Total # of Containers of Type	(***UNPRES GL***) = **1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
612629 MYRTL-IDW-GW-01				
	AMBER GL	1	/	8270,DRO,HERB,PCB,PEST
	AMBER GL	1	/	8270,DRO,HERB,PCB,PEST
	AMBER GL	1	/	8270,DRO,HERB,PCB,PEST
	AMBER GL	1	/	8270,DRO,HERB,PCB,PEST
	AMBER GL	1	/	8270,DRO,HERB,PCB,PEST
	AMBER GL	1	/	8270,DRO,HERB,PCB,PEST
	AMBER GL	1	/	8270,DRO,HERB,PCB,PEST
	Total # of Containers of Type		(***AMBER GL***) = **7**	
612629 MYRTL-IDW-GW-01				
	NAOH PL	1	Y /	CYN
	Total # of Containers of Type		(***NAOH PL***) = **1**	
612629 MYRTL-IDW-GW-01				
	UNPRES PL	1	/	FLASH,pH
	Total # of Containers of Type		(***UNPRES PL***) = **1**	
612629 MYRTL-IDW-GW-01				
	VOA HCL	1	/	GRO,VOC
	VOA HCL	1	/	GRO,VOC
	VOA HCL	1	/	GRO,VOC
	VOA HCL	1	/	GRO,VOC
	VOA HCL	1	/	GRO,VOC
	Total # of Containers of Type		(***VOA HCL***) = **5**	
612629 MYRTL-IDW-GW-01				
	HNO3	1	Y /	HG,ICP
	Total # of Containers of Type		(***HNO3***) = **1**	
612629 MYRTL-IDW-GW-01				
	NAOH W/ZNAC	1	Y /	SLFD
	Total # of Containers of Type		(***NAOH W/ZNAC***) = **1**	

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
612630 MYRTL-IDW-GW-01TB				
	VOA HCL	1	/	VOC
	Total # of Containers of Type		(***VOA HCL***) = **1**	

Condition Code	*Condition Description*
1	Sample Received OK

APPENDIX D

Laboratory Case Narrative and Data Validation Report

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DATA VALIDATION REPORT

PERFLUORINATED COMPOUNDS (PFCS) RELEASE DETERMINATION

AT MULTIPLE BRAC BASES

MYRTLE BEACH AIR FORCE BASE

Samples Collected 8 and 24 July 2015

Prepared for:

Air Force Civil Engineer Center

Joint Base San Antonio – Lackland, Texas

Prepared by:

amec
foster
wheeler

Contract FA8903-08-D-8766

Task Order 0177

September 2015

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ACRONYMS AND ABBREVIATIONS

µg/L	Micrograms Per Liter
Accutest	Accutest Laboratories
Amec Foster Wheeler	Amec Foster Wheeler Environment & Infrastructure, Inc.
CCV	Continuing Calibration Verification
CLP	Contract Laboratory Program
COC	Chain of Custody
DoD	Department Of Defense
EPA	United States Environmental Protection Agency
ICV	Initial Calibration Verification
ID	Identification
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection
LOQ	Limit of Quantification
mg/kg	Milligrams Per Kilogram
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PFBS	Perfluorobutane Sulfonate
PFCs	Perfluorinated Compounds
PFHpA	Perfluoroheptanoic Acid
PFHxS	Perfluorohexanesulfonic Acid
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctanesulfonic Acid
QC	Quality Control
QPP	Quality Program Plan
RPD	Relative Percent Difference
SDG	Sample Delivery Group

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1.0 INTRODUCTION

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler)[1] collected 13 water samples, including one field blank, three equipment blanks, and one field duplicate, and 21 soil or sediment samples including one field duplicate between 8 and 24 July 2015, from Myrtle Beach Air Force Base, located in Myrtle Beach, South Carolina. Amec Foster Wheeler submitted the samples to Accutest Laboratories (Accutest), located in Orlando, Florida between 10 and 25 July 2015, where they were assigned to sample delivery groups (SDGs) FA25929, FA25962, FA26135, and FA26348. Accutest analyzed the samples for perfluorinated compounds (PFCs) by United States Environmental Protection Agency (EPA) Method 537. A list of these samples by field sample identification (ID), sample collection date, sample matrix, and Accutest sample ID is presented in Table 1.

---

1 AMEC Environment & Infrastructure, Inc. changed its name on January 1, 2015 to Amec Foster Wheeler Environment & Infrastructure, Inc., to reflect AMEC's acquisition of Foster Wheeler. Contract FA8903-08-D-8766 was modified on March 26, 2015 to reflect the name change. All resource documents created under AMEC Environment & Infrastructure, Inc. remain in place and are executed under Amec Foster Wheeler Environment & Infrastructure, Inc.

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2.0 DATA VALIDATION METHODOLOGY

Amec Foster Wheeler performed EPA Stage IV validation on 10% of the samples and EPA Stage IIB validation on the remaining samples associated with this sampling event as indicated on Table 1. The Stage IV validation includes review of the quality control (QC) results in the laboratory's analytical report and reported on QC summary forms as well as recalculation checks and review of the instrument raw data outputs. The Stage IIB validation includes review of the QC results in the laboratory's analytical report and reported on QC summary forms with no review of the associated raw data. Data from equipment and field blanks did not undergo validation because results from these samples are only used to assess data usability for field samples. This data validation has been performed in general accordance with:

- AMEC, 2014. Final (Revision 1), PFCs Release Determination at Multiple BRAC Bases, Quality Program Plan (QPP), Contract FA8903-08-D-8766, Task Order 0177, July 2014.
- Department of Defense (DoD), 2010. DoD Quality Systems Manual for Environmental Laboratories, Version 5.0. July 2013.
- EPA, 2009. Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Version 1.1, September 2009. EPA Document #: EPA/600/R-08/092.
- EPA, 2014. EPA Contract Laboratory Program (CLP) National Functional Guidelines for Superfund Organic Methods Data Review, EPA/540-R-014-002.

The CLP guideline was written specifically for the CLP, and has been modified for the purposes of this data review where it differs from method-specific, QPP-specified, and laboratory-specified QC requirements.

The laboratory's certified analytical report and supporting documentation were reviewed to assess the following:

- Data package and electronic data deliverable completeness;
- Laboratory case narrative review;
- Chain of custody (COC) compliance;
- Holding time compliance;
- QC sample frequency;
- Initial calibration, initial calibration verification (ICV), and continuing calibration verification (CCV) compliance with method-specified criteria;
- Presence or absence of laboratory contamination as demonstrated by laboratory blanks;

- Accuracy and bias as demonstrated by recovery of surrogate spikes, laboratory control sample (LCS), and matrix spike (MS) samples;
- Internal standard recoveries;
- Analytical precision as relative percent difference (RPD) of analyte concentration between laboratory duplicates or MS/MS duplicate (MSD);
- Sampling and analytical precision as RPD of analyte concentration between field duplicates;
- Assessment of field contamination as demonstrated by field and trip blanks;
- Insofar as possible, the degree of conformance to method requirements and good laboratory practices.

In general, it is important to recognize that no analytical data are guaranteed to be correct, even if all QC audits are passed. Strict QC serves to increase confidence in data, but any reported value may potentially contain error.

3.0 EXPLANATION OF DATA QUALITY INDICATORS

Summary explanations of the specific data quality indicators reviewed during this data quality review are presented below.

3.1 LABORATORY CONTROL SAMPLE RECOVERIES

LCSs and LCS duplicates (LCSDs) are aliquots of analyte-free matrices that are spiked with the analytes of interest for an analytical method, or a representative subset of those analytes. The spiked matrix is then processed through the same analytical procedures as the samples they accompany. LCS recovery is an indication of a laboratory's ability to successfully perform an analytical method in an interference-free matrix.

3.2 MATRIX SPIKE RECOVERIES

MSs and MSDs are prepared by adding known amounts of the analytes of interest for an analytical method, or a representative subset of those analytes, to an aliquot of sample. The spiked sample is then processed through the same extraction, concentration, cleanup, and analytical procedures as the unspiked samples in an analytical batch.

MS recovery and precision are an indication of a laboratory's ability to successfully recover an analyte in the matrix of a specific sample or closely related sample matrices. It is important not to apply MS results for any specific sample to other samples without understanding how the sample matrices are related.

3.3 SURROGATE SPIKE RECOVERIES

Surrogate spikes are used to evaluate accuracy, method performance, and extraction efficiency in each individual sample. Surrogate compounds are compounds not normally found in environmental samples, but which are similar to target analytes in chemical composition and behavior in the analytical process.

3.4 BLANK CONCENTRATIONS

Blank samples are aliquots of analyte free matrix that are used as negative controls to verify that the sample collection, storage, preparation, and analysis system does not produce false positive results.

Equipment blanks are prepared by passing analyte-free water through or over sample collection equipment and collecting the water in sample containers. Equipment blanks are analyzed for the analytical suite required for the project. Equipment blanks are used to monitor for possible sample contamination during the sample collection process and serve as a check on the effectiveness of field decontamination procedures.

Field blanks are prepared by pouring an aliquot of analyte-free water into a sample container in the field. Field blanks are analyzed for the analytical suite required for the project. Field blanks are used to monitor for possible sample contamination originating from the water used for equipment decontamination.

Laboratory, equipment, and field blanks are processed by the laboratory using exactly the same procedures as the field samples. Target analytes should not be found in laboratory blanks.

When target analytes are detected in blanks, analyte concentrations in the associated samples less than ten times the concentration detected in the blank will be B qualified.

3.5 LABORATORY AND FIELD DUPLICATES

Laboratory and field duplicate analysis verifies acceptable method precision by the laboratory at the time of preparation and analysis and/or sampling precision at the time of collection.

4.0 DEFINITIONS OF QUALIFIERS THAT MAY BE USED DURING DATA VALIDATION

B The analyte was detected in the sample and an associated blank and the concentration detected in the sample was less than 10 times the concentration detected in the blank.

U The analyte was analyzed for, but was not detected above the reported limit of detection (LOD).

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample result is rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

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5.0 QUALIFICATION REASON CODES

Amec Foster Wheeler applied the following reason codes to the data during validation:

EBG The target analyte was detected in the associated equipment blank above the reporting limit and the associated sample result was less than ten times the concentration detected in the blank.

TR Detected concentration is less than the limit of quantification (LOQ).

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6.0 CHAIN OF CUSTODY AND SAMPLE RECEIPT CONDITION DOCUMENTATION

The samples were received at the laboratory under proper COC, intact, properly preserved, and at temperatures less than the QPP-specified maximum of 10 degrees Celsius.

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7.0 SPECIFIC DATA VALIDATION FINDINGS

Results from these samples may be considered usable with the limitations and exceptions described Sections 7.1 through 0.

7.1 PERFLUORINATED COMPOUNDS BY EPA METHOD 537

PFCs results generated by Vista are usable with the limitations described in Sections 7.1.1 through 7.1.11.

7.1.1 Holding Times

The samples were extracted for PFCs within the QPP-specified maximum holding time of 14 days from sample collection and the extracts were analyzed within the QPP-specified maximum hold time of 28 days from extraction.

7.1.2 Initial Calibrations

The initial calibrations associated with the analysis of these samples met the QPP-specified criteria of correlation coefficients greater than or equal to 0.995.

7.1.3 Initial Calibration Verification

ICV recoveries were within the QPP-specified 75% to 125% limits.

7.1.4 Continuing Calibration Verification

CCV recoveries were within the QPP specified 75% to 125% limits.

7.1.5 Laboratory Blanks

PFCs were not detected in the laboratory blanks associated with these samples.

7.1.6 Field and Equipment Blanks

Amec Foster Wheeler converted the field and equipment blank results, in micrograms per liter (µg/L), to milligrams per kilograms (mg/kg) for comparison to associated soil or sediment samples. Target analytes were not detected in the field and equipment blanks associated with these samples with the following exception.

- Perfluoroheptanoic acid (PFHpA) (0.00886 µg/L), perfluorooctanoic acid (PFOA) (0.0577 µg/L), perfluorobutanesulfonic acid (PFBS) (0.0117 µg/L), perfluorohexanesulfonic acid (PFHxS) (0.0935 µg/L), and perfluorooctanesulfonic acid (PFOS) (2.87 µg/L) were detected in the equipment blank MYRTL-FT106P-BLK04 associated with sample MYRTL-GW-008. Data limitations are summarized below.
  - Amec Foster Wheeler B qualified the detected PFOA and PFOS results from this sample because the detected concentrations were less than ten times the concentrations detected in the blank. (Qualifier and reason code: B-EBG)
  - The PFHpA, PFBS, and PFHxS concentrations detected in this sample were greater than ten times the concentrations detected in the blank and data usability is not adversely affected.

7.1.7 Laboratory Control Sample Accuracy

LCS recoveries were within QPP-specified 70 to 130% limits.

7.1.8 Matrix Spikes/ Matrix Spike Duplicates

Accutest performed MS and MSD analyses on samples MYRTL-SO-019, MYRTL-GW-009, MYRTL-SD-001, and MYRTL-GW-002. Recoveries were within the QPP-specified 70 to 130% limits and precision values were less than the QPP-specified maximum of 30%, with the following exceptions:

- PFOS recoveries were high at 198% and 276% in the MS and MSD, respectively, performed on sample MYRTL-SD-001. The PFOS concentration detected in the native unspiked sample was greater than four times the spike concentration and it is not possible to evaluate data usability for this analyte based on spike recoveries.
- All compounds were significantly outside specified limits in the MS and MSD performed on sample MYRTL-GW-002. The high target analyte concentrations detected in the native unspiked sample made it necessary to analyze the MS and MSD at 500-fold dilutions. This increased the LOQ to a level greater than the spike concentration and it is not possible to evaluate data usability based on spike recoveries for these diluted MS and MSD analyses.

7.1.9 Surrogate Recoveries

Surrogate recoveries were within the QPP-specified 70 to 130% limits with the following exception.

- Surrogate compounds were not recovered in the diluted analysis of samples MYRTL-SO-006, MYRTL-SO-010, MYRTL-SO-011, MYRTLE-SO-007, MYRTL-SO-008, MYRTL-SO-012, MYRTL-GW-001, MYRTL-GW-002, MYRTL-GW-003, MYRTL-GW-004, MYRTL-GW-005, MYRTL-GW-006, MYRTL-GW-007, and MYRTL-GW-008. These samples were analyzed at 20-fold or higher dilutions and it is not possible to evaluate data usability for these samples based on surrogate recoveries.

7.1.10 Internal Standard Recoveries

Internal standard areas were within the QPP-specified limits of 50 to 150% of the average area counts measured during the initial calibration and recoveries were within the QPP-specified 70 to 130% limits for aqueous samples and 60 to 130% limits for soil/sediment samples.

7.1.11 Data Reporting and Analytical Procedures

Accutest J qualified analytes with concentrations between the MDL and the LOQ. Amec Foster Wheeler agrees that these results are quantitatively uncertain and has J qualified these results. (Qualifier and reason code: J-TR)

8.0 FIELD DUPLICATE RESULTS

Samples MYRTL-SO-007 (MYRTL-SO-008) and MYRTL-GW-004 (MYRTL-GW-005) were collected as field duplicates. Detected results and RPDs for the field duplicates are summarized in Table 2. All precision values were within the QPP-specified limits of less than 30% RPD or the difference between analytical results less than the LOQ.

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9.0 SUMMARY AND CONCLUSIONS

Amec Foster Wheeler evaluated a total of 180 data records from field samples during the validation. Amec Foster Wheeler J qualified 13 records (7.2%) as estimated values because of analyte concentrations between the LOD and the LOQ. Amec Foster Wheeler B qualified two records (1.1%) because of contamination detected in the associated equipment blank. Qualified data are summarized in Table 3.

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REFERENCES

AMEC, 2014. Final (Revision 1), PFCs Release Determination at Multiple BRAC Bases, Quality Program Plan (QPP), Contract FA8903-08-D-8766, Task Order 0177, July 2014.

Department of Defense (DOD), 2010. DoD Quality Systems Manual for Environmental Laboratories, Version 5. July 2013.

EPA, 2009. Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Version 1.1, September 2009. EPA Document #: EPA/600/R-08/092.

EPA, 2014. EPA Contract Laboratory Program (CLP) National Functional Guidelines for Superfund Organic Methods Data Review, EPA/540-R-014-002.

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TABLES

Table 1
Field Samples Submitted to Accutest Laboratories
Myrtle Beach Air Force Base, South Carolina
Perfluorinated Compounds Release Determination

Sample Identification	Collection Date	Sample Matrix	Laboratory Sample Identification	Notes
MYRTL-SO-001	8-Jul-15	Soil	FA25929-1	Stage IV
MYRTL-SO-002	8-Jul-15	Soil	FA25929-2	Stage IV
MYRTL-SO-003	8-Jul-15	Soil	FA25929-3	
MYRTL-SO-005	9-Jul-15	Soil	FA25929-4	
MYRTL-SO-006	9-Jul-15	Soil	FA25929-5	
MYRTL-SO-010	9-Jul-15	Soil	FA25929-6	
MYRTL-SO-011	9-Jul-15	Soil	FA25929-7	
MYRTL-SO-014	9-Jul-15	Soil	FA25929-8	
MYRTL-SO-015	9-Jul-15	Soil	FA25929-9	
MYRTL-SO-016	9-Jul-15	Soil	FA25929-10	
MYRTL-SO-007	10-Jul-15	Soil	FA25962-1	
MYRTL-SO-008	10-Jul-15	Soil	FA25962-2	Field Duplicate of Sample MYRTL-SO-007
MYRTL-SO-012	10-Jul-15	Soil	FA25962-3	
MYRTL-SO-017	10-Jul-15	Soil	FA25962-4	
MYRTL-SO-019	10-Jul-15	Soil	FA25962-5	MS/MSD
MYRTL-SO-020	10-Jul-15	Soil	FA25962-6	
MYRTL-SO-021	10-Jul-15	Soil	FA25962-7	
MYRTL-SO-023	10-Jul-15	Soil	FA25962-8	
MYRTL-SO-024	10-Jul-15	Soil	FA25962-9	
MYRTL-SO-027	10-Jul-15	Soil	FA25962-10	
MYRTL-FT106P-BLK01	10-Jul-15	QC Water	FA25962-11	Equipment Blank
MYRTL-FT106P-BLK02	10-Jul-15	QC Water	FA25962-12	Equipment Blank
MYRTL-GW-009	14-Jul-15	Groundwater	FA26135-1	MS/MSD
MYRTL-GW-001	23-Jul-15	Groundwater	FA26348-1	Level IV
MYRTL-GW-002	24-Jul-15	Groundwater	FA26348-2	MS/MSD
MYRTL-GW-003	23-Jul-15	Groundwater	FA26348-3	
MYRTL-GW-004	23-Jul-15	Groundwater	FA26348-4	
MYRTL-GW-005	23-Jul-15	Groundwater	FA26348-5	Field Duplicate of Sample MYRTL-GW-004
MYRTL-GW-006	23-Jul-15	Groundwater	FA26348-6	
MYRTL-GW-007	24-Jul-15	Groundwater	FA26348-7	
MYRTL-GW-008	23-Jul-15	Groundwater	FA26348-8	
MYRTL-FT106P-BLK04	23-Jul-15	QC Water	FA26348-9	Equipment Blank
MYRTL-FT106P-BLK05	24-Jul-15	QC Water	FA26348-10	Field Blank
MYRTL-SD-001	24-Jul-15	Sediment	FA26348-11	MS/MSD, Level IV

Notes:
MS/MSD = Matrix Spike / Matrix Spike Duplicate
SDG = Sample Delivery Group

DATA VALIDATION REPORT
PERFLUORINATED COMPOUNDS (PFCS) RELEASE DETERMINATION
AT MULTIPLE BRAC BASES
MYRTLE BEACH AIR FORCE BASE

Sample Collected 23 November 2015

Prepared for:
Air Force Civil Engineer Center
Joint Base San Antonio – Lackland, Texas

Prepared by:

amec
foster
wheeler

Contract FA8903-08-D-8766
Task Order 0177

January 2016

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ACRONYMS AND ABBREVIATIONS

Accutest	Accutest Laboratories
Amec Foster Wheeler	Amec Foster Wheeler Environment & Infrastructure, Inc.
CCV	Continuing Calibration Verification
CLP	Contract Laboratory Program
COC	Chain Of Custody
DoD	Department Of Defense
EPA	United States Environmental Protection Agency
ICV	Initial Calibration Verification
ID	Identification
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit Of Detection
LOQ	Limit Of Quantification
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PFCs	Perfluorinated Compounds
PFHxS	Perfluorohexanesulfonic Acid
QC	Quality Control
QPP	Quality Program Plan
RPD	Relative Percent Difference

1.0 INTRODUCTION

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler)[1] collected one water sample on 23 November 2015, from Myrtle Beach Air Force Base, located in Myrtle Beach, South Carolina. Amec Foster Wheeler submitted the sample to Accutest Laboratories (Accutest), located in Orlando, Florida on 24 November 2015, where it was assigned to sample delivery group FA29525. Accutest analyzed the sample for perfluorinated compounds (PFCs) by United States Environmental Protection Agency (EPA) Method 537. A list of this sample by field sample identification (ID), sample collection date, sample matrix, and Accutest sample ID is presented in Table 1.

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1 AMEC Environment & Infrastructure, Inc. changed its name on January 1, 2015 to Amec Foster Wheeler Environment & Infrastructure, Inc., to reflect AMEC's acquisition of Foster Wheeler. Contract FA8903-08-D-8766 was modified on March 26, 2015 to reflect the name change. All resource documents created under AMEC Environment & Infrastructure, Inc. remain in place and are executed under Amec Foster Wheeler Environment & Infrastructure, Inc.

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2.0 DATA VALIDATION METHODOLOGY

Amec Foster Wheeler performed EPA Stage IV validation on the sample associated with this sampling event. The Stage IV validation includes review of the quality control (QC) results in the laboratory's analytical report and reported on QC summary forms as well as recalculation checks and review of the instrument raw data outputs. Data from equipment and field blanks did not undergo validation because results from these samples are only used to assess data usability for field samples. This data validation has been performed in general accordance with:

- AMEC, 2014. Final (Revision 1), PFCs Release Determination at Multiple BRAC Bases, Quality Program Plan (QPP), Contract FA8903-08-D-8766, Task Order 0177, July 2014.
- Department of Defense (DOD), 2010. DoD Quality Systems Manual for Environmental Laboratories, Version 5.0. July 2013.
- EPA, 2009. Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Version 1.1, September 2009. EPA Document #: EPA/600/R-08/092.
- EPA, 2014. EPA Contract Laboratory Program (CLP) National Functional Guidelines for Superfund Organic Methods Data Review, EPA/540-R-014-002.

The CLP guideline was written specifically for the CLP, and has been modified for the purposes of this data review where it differs from method-specific, QPP-specified, and laboratory-specified QC requirements.

The laboratory's certified analytical report and supporting documentation were reviewed to assess the following:

- Data package and electronic data deliverable completeness;
- Laboratory case narrative review;
- Chain of custody (COC) compliance;
- Holding time compliance;
- QC sample frequency;
- Initial calibration, initial calibration verification (ICV), and continuing calibration verification (CCV) compliance with method-specified criteria;
- Presence or absence of laboratory contamination as demonstrated by laboratory blanks;
- Accuracy and bias as demonstrated by recovery of surrogate spikes, laboratory control sample (LCS), and matrix spike (MS) samples;
- Internal standard recoveries;

- Analytical precision as relative percent difference (RPD) of analyte concentration between laboratory duplicates or MS/MS duplicate (MSD);
- Sampling and analytical precision as RPD of analyte concentration between field duplicates;
- Assessment of field contamination as demonstrated by field and trip blanks;
- Insofar as possible, the degree of conformance to method requirements and good laboratory practices.

In general, it is important to recognize that no analytical data are guaranteed to be correct, even if all QC audits are passed. Strict QC serves to increase confidence in data, but any reported value may potentially contain error.

3.0 EXPLANATION OF DATA QUALITY INDICATORS

Summary explanations of the specific data quality indicators reviewed during this data quality review are presented below.

3.1 LABORATORY CONTROL SAMPLE RECOVERIES

LCSs and LCS duplicates (LCSDs) are aliquots of analyte-free matrices that are spiked with the analytes of interest for an analytical method, or a representative subset of those analytes. The spiked matrix is then processed through the same analytical procedures as the samples they accompany. LCS recovery is an indication of a laboratory's ability to successfully perform an analytical method in an interference-free matrix.

3.2 MATRIX SPIKE RECOVERIES

MSs and MSDs are prepared by adding known amounts of the analytes of interest for an analytical method, or a representative subset of those analytes, to an aliquot of sample. The spiked sample is then processed through the same extraction, concentration, cleanup, and analytical procedures as the unspiked samples in an analytical batch.

MS recovery and precision are an indication of a laboratory's ability to successfully recover an analyte in the matrix of a specific sample or closely related sample matrices. It is important not to apply MS results for any specific sample to other samples without understanding how the sample matrices are related.

3.3 SURROGATE SPIKE RECOVERIES

Surrogate spikes are used to evaluate accuracy, method performance, and extraction efficiency in each individual sample. Surrogate compounds are compounds not normally found in environmental samples, but which are similar to target analytes in chemical composition and behavior in the analytical process.

3.4 BLANK CONCENTRATIONS

Blank samples are aliquots of analyte free matrix that are used as negative controls to verify that the sample collection, storage, preparation, and analysis system does not produce false positive results.

Equipment blanks are prepared by passing analyte-free water through or over sample collection equipment and collecting the water in sample containers. Equipment blanks are analyzed for the analytical suite required for the project. Equipment blanks are used to monitor for possible sample contamination during the sample collection process and serve as a check on the effectiveness of field decontamination procedures.

Field blanks are prepared by pouring an aliquot of analyte-free water into a sample container in the field. Field blanks are analyzed for the analytical suite required for the project. Field blanks are used to monitor for possible sample contamination originating from the water used for equipment decontamination.

Laboratory, equipment, and field blanks are processed by the laboratory using exactly the same procedures as the field samples. Target analytes should not be found in laboratory blanks.

When target analytes are detected in blanks, analyte concentrations in the associated samples less than 10 times the concentration detected in the blank will be B qualified.

3.5 LABORATORY AND FIELD DUPLICATES

Laboratory and field duplicate analysis verifies acceptable method precision by the laboratory at the time of preparation and analysis and/or sampling precision at the time of collection.

4.0 DEFINITIONS OF QUALIFIERS THAT MAY BE USED DURING DATA VALIDATION

B The analyte was detected in the sample and an associated blank and the concentration detected in the sample was less than 10 times the concentration detected in the blank.

U The analyte was analyzed for, but was not detected above the reported limit of detection (LOD).

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample result is rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

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5.0 QUALIFICATION REASON CODES

Amec Foster Wheeler applied the following reason code to the data during validation:

ICR2 Initial calibration exceeded the regression factor for the first order regression.

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6.0 CHAIN OF CUSTODY AND SAMPLE RECEIPT CONDITION DOCUMENTATION

The sample was received at the laboratory under proper COC, intact, properly preserved, and at a temperature less than the QPP-specified maximum of 10 degrees Celsius.

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7.0 SPECIFIC DATA VALIDATION FINDINGS

Results from this sample may be considered usable with the limitations and exceptions described Sections 7.1 through 0.

7.1 PERFLUORINATED COMPOUNDS BY EPA METHOD 537

PFCs results generated by Vista are usable with the limitations described in Sections 7.1.1 through 7.1.11.

7.1.1 Holding Times

The sample was extracted for PFCs within the QPP-specified maximum holding time of 14 days from sample collection and the extract was analyzed within the QPP-specified maximum hold time of 28 days from extraction.

7.1.2 Initial Calibrations

The initial calibration associated with the analysis of this sample met the QPP-specified criteria of correlation coefficients greater than or equal to 0.995, with the following exception:

- The initial calibration regression factor for perfluorohexanesulfonic acid (PFHxS) was low at 0.9940 in the initial calibration associated with sample WELL 1. Amec Foster Wheeler UJ qualified the non-detected PFHxS result from this sample because the curve did not meet the QPP-specified criteria. (Qualifier and reason code: UJ-ICR2)

7.1.3 Initial Calibration Verification

ICV recoveries were within the QPP-specified 75% to 125% limits.

7.1.4 Continuing Calibration Verification

CCV recoveries were within the QPP specified 75% to 125% limits.

7.1.5 Laboratory Blanks

PFCs were not detected in the laboratory blank associated with this sample.

7.1.6 Field and Equipment Blanks

No field or equipment blanks were associated with the sample covered in this report.

7.1.7 Laboratory Control Sample Accuracy

LCS recoveries were within QPP-specified 70 to 130% limits.

7.1.8 Matrix Spikes/ Matrix Spike Duplicates

Accutest did not perform an MS and MSD analysis on the sample covered in this report and it is not possible to determine data usability for this sample based on spike recoveries for unrelated samples.

7.1.9 Surrogate Recoveries

Surrogate recoveries were within the QPP-specified 70 to 130% limits.

7.1.10 Internal Standard Recoveries

Internal standard areas were within the QPP-specified limits of 50 to 150% of the average area counts measured during the initial calibration and recoveries were within the QPP-specified 70 to 130% limits for aqueous samples and 60 to 130% limits for soil/sediment samples.

7.1.11 Data Reporting and Analytical Procedures

No additional anomalies were encountered associated with the PFC analysis of the sample covered in this report.

8.0 FIELD DUPLICATE RESULTS

No field duplicates were submitted associated with the sample covered in this report.

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9.0 SUMMARY AND CONCLUSIONS

Amec Foster Wheeler evaluated a total of 6 data records from the field sample during the validation. Amec Foster Wheeler UJ qualified 1 record (16.7%) as estimated values because of initial calibration curves outside of QPP-specified criteria. Qualified data are summarized in Table 2.

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REFERENCES

AMEC, 2014. Final (Revision 1), PFCs Release Determination at Multiple BRAC Bases, Quality Program Plan (QPP), Contract FA8903-08-D-8766, Task Order 0177, July 2014.

Department of Defense (DOD), 2010. DoD Quality Systems Manual for Environmental Laboratories, Version 5. July 2013.

EPA, 2009. Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS), Version 1.1, September 2009. EPA Document #: EPA/600/R-08/092.

EPA, 2014. EPA Contract Laboratory Program (CLP) National Functional Guidelines for Superfund Organic Methods Data Review, EPA/540-R-014-002.

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TABLES

Table 1
Field Samples Submitted to Accutest Laboratories
Myrtle Beach Air Force Base, South Carolina
Perfluorinated Compounds Release Determination

Sample Identification	Collection Date	Sample Matrix	Laboratory SDG	Laboratory Sample Identification	Notes
Well 1	23-Nov-15	Ground Water	FA29525	FA29525-1	Stage IV

Notes:
MS/MSD = Matrix Spike / Matrix Spike Duplicate
SDG = Sample Delivery Group

Table 2
Qualifiers Added During Validation
Myrtle Beach Air Force Base, South Carolina
Perfluorinated Compounds Release Determination

Sample Identification	Analyte	Results	Validation Qualifiers and Reason Codes
WELL 1	Perfluorohexanesulfonic Acid	0.015 µg/L	UJ ICR2

Validation Qualifiers

J = The associated result is quantitatively uncertain.

Reason Codes

ICR2 = Initial calibration exceeded the regression factor for the first order regression.